

DOMINION OF CANADA

ANNUAL REPORT

OF THE

DEPARTMENT OF RAILWAYS AND CANALS

FOR THE FISCAL YEAR FROM APRIL 1, 1915, TO MARCH 31, 1916

*Submitted in accordance with the provisions of the Revised Statutes of Canada, 1916,
Chapter 35, Section 33.*

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OTTAWA

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PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1917

*To His Excellency the Duke of Devonshire, K.G., P.C., G.C.M.G., G.C.V.O., etc., etc.,
etc., Governor General and Commander-in-Chief of the Dominion of Canada.*

MAY IT PLEASE YOUR EXCELLENCY,—

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Railways and Canals, of the Dominion of Canada, for the past fiscal year from April 1, 1915, to March 31, 1916:—

F. COCHRANE,
Minister of Railways and Canals.

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REPORT

OF THE

DEPUTY MINISTER OF RAILWAYS AND CANALS

FOR THE YEAR ENDING MARCH 31, 1916.

To the Honourable F. COCHRANE,
Minister of Railways and Canals.

SIR,—I have the honour to submit the annual report of the Department of Railways and Canals for the fiscal period of twelve months ended March 31, 1916.

The annual reports of the engineers, together with general and special reports from superintendents, both of railways and canals, and from other officers in the department, are given in appendices. These include the report of the General Manager of Government railways; the report of the Government Chief Engineer of the Western Division of the Transcontinental Railway; the report of the Chairman of the Quebec Bridge Engineers' Board; and the report of the Chief Engineer of the department.

In Part I will be found statements of the Accountant of the department, showing the amounts expended during the past fiscal year in construction, repair and maintenance of the several works under the department; also statements showing total expenditure on each canal since its construction, and on each of the Government railways; also a statement showing payments made, year by year, to subsidized railways, with the aggregates of such payments.

In Part II are the statements of the Departmental Solicitor of the contracts and agreements entered into during the year.

GENERAL SUMMARY.

During the twelve months of the past fiscal year 1915-16 the expenditures made by or through the department on its several works of operation, maintenance and construction, both railway and canal, and in furtherance by subsidy, under specific votes granted by Parliament, of railway enterprises in various parts of Canada other than the Government roads; also the revenue derived from the Government works, aggregate as follows:—

The total railway expenditure, including the Quebec Bridge, amounted to \$43,627,328.93, of which \$23,902,068.89 was charged to capital, \$19,408,780.22 to revenue, and \$1,716,651.24 to income.

The railway expenditure on capital account included \$7,635,050.25 for the Intercolonial Railway, \$1,350,472.73 for the Prince Edward Island Railway, \$7,078,451.69 for the National Transcontinental Railway, which is in course of construction by a board of commissioners, \$4,889,131.77 for the Hudson Bay Railway, and \$2,746,813.70 for the Quebec Bridge; \$2,637.47 for the International Railway, and \$199,511.28 for the New Brunswick and Prince Edward Island Railway.

The railway expenditure on income included a total of \$1,400,171.42 paid as subsidies to railways other than the Government roads, \$212,757.29 for the Board of Railway Commissioners for Canada, and \$47,079.99 for Railway Grade Crossing Fund, and \$36,873.46 for surveys and inspections.

The expenditure on the Intercolonial Railway amounted to \$21,702,441.66, namely, \$7,635,050.25 on capital account, and on revenue account (working expenses and improvements and betterments), \$14,067,391.41.

On the Prince Edward Island Railway, the total expenditure was \$1,895,493.35, of which \$1,350,472.73 was charged to capital and \$545,020.62 to revenue.

The total expenditure on the National Transcontinental Railway amounted to \$11,488,980.44, namely, \$7,078,451.69 on capital, and \$4,410,528.75 on revenue account (working expenses). The working expenses for the International Railway amounted to \$116,651.38; this does not include the sum of \$90,000 paid as rental for the road. The working expenses for the New Brunswick and Prince Edward Island Railway were \$76,844.63, and for the St. John and Quebec Railway, \$90,757.13.

The expenditure on canals aggregated \$7,906,863.37, of which \$6,142,148.96 was chargeable to capital account, \$397,664.95 to income, \$800,977.56 for staff, and \$566,071.90 for repairs, the last two amounts being charged to revenue.

Adding to the above for miscellaneous expenditures common to both branches, the sum of \$322,305.88, of which \$313,740.73 was chargeable to the special war appropriation (special services having been required of the department in connection with the war, entailing expenditures for the protection of its bridges and canal structures, transportation of goods for the Belgian Relief Fund, the Red Cross Society, and for payment of salaries for substitutes for enlisted men), the total expenditure for the year on railways and canals was \$53,256,669.60.

The total revenue derived from the Government railway and canal works was \$18,874,630.86, of which the railways produced \$18,427,908.65, and the canals \$446,722.21,* the sum of \$267,055.95 being derived from hydraulic and other rents.

The total Government expenditure on railways prior to and since Confederation (July 1, 1867) up to March 31, 1916, amounts, on capital account, to \$377,146,699.09, including expenditure on the Quebec Bridge, and also the sum of \$25,000,000 granted to the Canadian Pacific Railway Company for its main line; also the amount, \$660,683.09, expended on the Annapolis and Digby Railway. In addition, there has

* Under the authority of an Order in Council, dated June 22, 1905, the system of charging tolls for the passage of vessels and goods was abolished on all the canals of the Dominion. Records, however, are kept for statistical purposes, and the compilation of the resultant figures is given in a separate report issued by the department.

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been expended from the consolidated fund a total of \$315,956,228.81, covering the operating expenses of the Government roads, and \$74,157,831.59 on subsidies other than that for the main line of the Canadian Pacific Railway, making a total expenditure of \$693,102,927.90.** Of this amount, the sum of \$13,881,460.65 was expended prior to Confederation, namely, on the construction of portions of what is now the Intercolonial Railway system, \$10,766,725.54, and on the construction of the Prince Edward Island Railway, \$3,114,735.11.

The total Government expenditure on canals prior to and since July 1, 1867, to March 31, 1916, amounts on capital account to \$118,614,725.75, of which \$20,593,866.13 was expended prior to Confederation, and from the consolidated fund, for operation, maintenance and repairs, \$39,497,907.96, making a total of \$158,112,633.71.

The total expenditure on the two branches, railways and canals, up to March 31, 1916, is as above, \$851,215,561.61; adding to which for general expenditures embracing both, the further sum of \$1,155,289.17, the grand total expenditure amounts to \$852,370,850.78.

The total revenue collected since July 1, 1867, to March 31, 1916, amounts, from the Government railways, to \$224,854,539.86, and from the canals to \$16,203,848.18, making a total of \$241,058,388.04.

Details in tabulated form showing the general classes and directions of the above expenditures and revenues will be found in the statements of the accountant of the department, printed in the appendices, Part I.

GOVERNMENT RAILWAYS IN OPERATION.

Details respecting these railways and their operation during the fiscal year ended March 31, 1916, will be found in appendix, Part VI, containing reports from the General Manager and the officials of these roads.

The Intercolonial Railway earnings amounted to \$14,068,791.41, and its working expenses to \$12,551,495.84, producing a surplus of \$1,517,295.57. This surplus has been absorbed, under the authority of the Act of 1912, Chap. 8, by crediting the Rail, the Fire and the Equipment Renewal Accounts with amounts aggregating \$1,515,895.57, the balance, \$1,400, being paid as "compassionate allowances" under special votes.

The Prince Edward Island Railway working expenses amounted to \$545,020.62. Its earnings amounted to \$390,926.82, the deficit being \$154,093.80.

The International Railway working expenses amounted to \$116,651.38, and the earnings to \$104,623.49, a deficit of \$12,027.89. This does not include the sum of \$90,000 paid as interest on the purchase price of the road.

** This amount does not include the annual payment of \$119,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of \$2,394,000 up to 1905, granted by 47 Victoria, ch. 8 (1884), nor the annual payment of \$107,730, being interest at the rate of 4½ per cent since and including 1905, on the said sum of \$2,394,000, for the line between Ottawa and Quebec, which sum was transferred to the public debt as a liability, and is dealt with by the Finance Department. (See Public Accounts, 1893-4, page 10, and 1906, page 79.)

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The St. John and Quebec Railway working expenses amounted to \$90,757.13, and the earnings to \$57,742.71, a deficit of \$33,014.42.

The New Brunswick and Prince Edward Island Railway working expenses amounted to \$76,844.63, and the earnings to \$50,414.34, leaving a deficiency of \$26,430.29. This does not include \$10,186.29 paid as interest on the purchase price of the road pending payment.

The working expenses of the portion of the National Transcontinental Railway operated by the Government amounted to \$4,410,528.75, and the earnings to \$3,758,387.39.

INTERCOLONIAL RAILWAY.

This railway extends from the Atlantic Ocean ports of Halifax, St. John, Sydney, and North Sydney, to Montreal.

On March 1, 1898, the operations of the Intercolonial, the westerly limit of which previously was Lévis, opposite Quebec, were extended to Montreal by means of leases obtained from the Grand Trunk and Drummond County Railway Companies, making an addition of 169.81 miles to the operation of the Government line.

The leasing agreement for an undivided half share or interest, made with the Grand Trunk Railway Company, and dated February 1, 1898, was confirmed, with modification, by the Act 62-63 Vic., chap. 5 (1899). It covers the distance between Ste. Rosalie station and the city of Montreal, with termini in that city, also the Jacques-Cartier junction, the Chaudière bridge and its approaches, and the use of the Victoria bridge over the river St. Lawrence above Montreal. Its term extends for a period of ninety-nine years from March 1, 1898, renewable, in like terms of ninety-nine years each, forever; the annual rental being fixed at \$140,000.

Under authority of the Act 62-63 Vic., chap. 6 (1899), the Drummond County Railway from Chaudière to Ste. Rosalie, together with the branch from St. Leonard to Nicolet, was acquired by the Dominion; conveyance being made by a deed dated November 7, 1899.

On October 1, 1904, the Canadian Eastern Railway from Gibson to Loggieville, 123.67 miles, was purchased, and on April 19, 1905, the mortgaged Fredericton and St. Mary's bridge, with connected property, 1.33 mile, was surrendered to the Government.

In September, 1911, the branch line, 12.52 miles long, from Ferrona Junction to Sunny Brae, was acquired.

By a diversion, known as the Nelson-to-Derby Junction diversion, 2.69 miles, which was opened for traffic on January 10, 1915, the distance from Nelson to Chatham Junction, 5.5 miles, has been shortened to 2.81 miles.

By a diversion, known as Leitches Creek diversion, 4.26 miles long, from North Sydney to Leitches Creek, C.B., which was put in operation on January 10, 1915, the towns of Sydney Mines, North Sydney, Florence, and Little Bras d'Or, have been placed on the main line, instead of on a branch.

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The length of the railway main line in operation is 1,515.39 miles; 66.92 miles are double-tracked. There are of passing sidings, 139.21 miles, and of other sidings and spurs, 387.43 miles.

FINANCIAL STATEMENTS.

CAPITAL ACCOUNT EXPENDITURE.

The expenditure on capital account during the fiscal year ended March 31, 1916, amounted to \$7,635,050.25,* making the total capital expenditure on the whole Inter-colonial Railway system as at present existing. \$115,766,560.24.

The principal items charged to capital during the year were as follows (omitting cents): For new terminal facilities at Halifax, \$3,162,304; for rolling stock, \$2,500,000; for strengthening bridges, \$700,000; for locomotive and car shops with equipment at Moncton, \$81,467; for increased accommodation along the line, \$102,000; for increased accommodation at Truro, \$14,806; for docks and wharves at Halifax, \$30,000; for improvements at Lévis, \$71,715; for safety appliances, \$24,000; towards the construction of the Dartmouth to Deans Railway, \$230,360; for double-tracking Chaudière Curve to St. Romuald, \$29,401; for North Sydney-Leitches Creek diversion, \$59,990; for elimination of level crossings and grades, Moncton, \$83,657; for new car ferry and dock at Mulgrave, \$243,850; for Bathurst spur line, \$62,400; for new coaling plant at Lévis, \$75,000.

REVENUE ACCOUNT EXPENDITURE.

The expenditures on revenue account—working expenses—are grouped under six main heads, each divided into a number of sub-heads.

These expenditures for the fiscal year ended March 31, 1916, were as follows: Maintenance of way and structures, \$2,499,894.09, against which is a credit of \$10,115.89 for maintaining joint tracks, yards and other facilities, leaving the net amount, \$2,489,778.20; maintenance of equipment, \$2,367,679.33; traffic expenses, \$256,871.81; transportation (rail) expenses, \$7,009,142.38, against which is a credit of \$79,046.07 for operating joint yards and terminals, leaving the net amount, \$6,930,096.31; transportation (water line) expenses, \$50,619.83; miscellaneous, \$152,058.44; general expenses, \$304,391.92. The aggregate of the expenditures under these heads for the year was \$12,551,495.84.

In the above expenditures there were included the following items (omitting cents): Maintenance of way and structures: for roadway maintenance, \$228,956; for bridges, trestles and culverts, \$151,022; for track-laying and surfacing, \$586,357; for ties, \$333,157; for rails, \$245,377; for ballast, \$88,289; for removal of snow, ice

* The Comptroller of Government Railways shows capital expenditure, \$7,643,265.40; the difference, \$8,215.15, is due to his inclusion of certain Exchequer Court awards, etc., omitted in his statements for the previous year, but included in the statement for that year of the accountant of the department.

and sand, \$139,528. Maintenance of equipment: for locomotive repairs, \$666,163; for locomotive renewals, \$133,333; for shop machinery, \$68,093; for passenger cars, repairs, \$359,602, renewals, \$66,666; for freight cars, repairs, \$847,353, renewals, \$100,000. The traffic expenses included: for advertising, \$43,273, and for outside agencies, \$119,400. The transportation expenses included: for station employees, \$936,843; for yard conductors and brakemen, \$249,347; for yard enginemen, \$149,717; for fuel for yard engines, \$235,739; for engine-house expenses (train), \$304,928, (yard), \$47,633; for train enginemen, \$738,338; for trainmen, \$944,362; for fuel for road engines, \$1,990,319; for train supplies and expenses, \$234,038. The general expenses included salaries and expenses of clerks and attendants, \$116,459, and pensions, \$93,641.

Details of expenditure will be found in the report of the Comptroller, Part VI of the appendices.

GENERAL NOTES.

The mileage of the railway for the year was 1,526.82 miles, an increase of 77.96 miles.

The total engine mileage was 9,705,642; the total train mileage was 7,890,939, and the total car mileage, 125,915,220.

The gross earnings of the railway for the year amounted to \$14,068,791.41, derived as follows:—

The passenger earnings were \$4,010,879.58; the freight earnings, \$9,200,339.21; the mail and express earnings and miscellaneous, \$857,572.62.

The gross earnings per mile of railway were \$9,181.53; per engine mile, \$1.45; per train mile, \$1.87; and per car mile, 11.13 cents.

Comparing the earnings for the twelve months ended March 31, 1915, with the corresponding period ended March 31, 1916, the gross earnings for the latter year show an increase of \$2,623,918.27. The passenger traffic shows an increase of \$718,962.62; the freight traffic an increase of \$1,889,574.10; the mails, express traffic and miscellaneous, an increase of \$15,381.55. The increase per mile of railway was \$1,282.09, and per train mile, 35 cents.

The expenses per mile of railway were as follows: Maintenance of way and structures, \$1,630.74; maintenance of equipment, \$1,550.77; traffic expenses, \$168.24; transportation expenses, \$4,539.03; general expenses, \$199.37; a total of \$8,187.74.

The expenses per train mile were: Maintenance of way and structures, 31.55 cents; maintenance of equipment, 30.00 cents; traffic expenses, 3.26 cents; transportation (rail) expenses, 87.82 cents; general expenses, 3.86 cents; miscellaneous operations, 1.93 cents; total, 151.96 cents.

The ratio of expenses to gross earnings was as follows: Maintenance of way and structures, 17.70 per cent; maintenance of equipment, 16.83 per cent; traffic expenses, 1.83 per cent; transportation expenses, 49.26 per cent; miscellaneous operations, 1.08 per cent; general expenses, 2.16 per cent.

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The number of passengers carried was 4,124,387, an increase compared with the previous year of 511,016. There was an increase of 507,989 in the number of local passengers, and of 3,037 in the number of through passengers.

Of revenue producing freight 5,447,220 tons were carried, an increase compared with the previous year of 918,218 tons.

Details of the principal items of freight will be found in the statements of the Comptroller, Appendix VI, classified as follows: products of agriculture, 746,213 tons, an increase of 126,486 tons; animals and their products, also poultry, game and fish, 133,730 tons, an increase of 3,197 tons; products of mines, 1,685,903 tons, an increase of 290,088 tons; products of forest, 1,244,067 tons, an increase of 113,477 tons; manufactures and miscellaneous, 1,637,307 tons, an increase of 384,970 tons; in all, 5,447,220 tons, an increase of 918,218 tons.

The above included 2,822,900 barrels (282,290 tons) of flour, and 6,537,213 bushels (143,675 tons) of grain.

The rolling stock equipment will be found specifically described in the report of the mechanical accountant in Appendix VI. Included in the purchases of the year were 24 locomotives bought on capital account, 1,000 freight cars and 15 passenger cars purchased on consolidated revenue account, and 18 passenger cars on equipment renewal account. The number of locomotives on March 31, 1916, was 434; passenger cars, 566; and freight cars, 15,863; the work cars numbered 378.

The value of stores on hand at the close of the year was \$1,755,994.47, comprising ordinary stores and fuel, \$1,219,730.67, and roadway and bridge material, \$536,263.80.

COMPARATIVE STATISTICS. YEARS 1914-15 AND 1915-16.

In 1914-15, the average tons of freight carried per train, producing revenue, was 257.09, and the number of passengers, 58.16; in 1915-16, the average freight tonnage was 327.86, and passengers, 64.15.

In 1914-15, the average tons per loaded car, producing revenue, was 16.77, and the number of passengers, 8.70; in 1915-16, the number of tons was 19.22, and of passengers, 9.24.

The number of tons per train, all freight, in 1914-15, was 263.92, and in 1915-16, 332.62.

The number of tons per car, all freight, in 1914-15, was 13.78, and in 1915-16, 15.95.

The average distance each ton of freight was carried in 1914-15 was 247.26 miles, and in 1915-16, 280.58. The average distance passengers were carried in those years was 48.76 miles and 48.21, respectively.

The average number of loaded cars per train in 1914-15 was 15.33 cars of freight, and 6.68 cars of passengers; in 1915-16, the number of freight cars per train was 17.05, and of passengers, 6.94.

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The average number of empty cars per train in 1914-15 was 3.83, and in 1915-16, 3.79.

In 1914-15, the average of train miles per mile of road was, for freight trains, 3,208.73, and for passenger, 1,990.45; in 1915-16, these figures were, respectively, 3,137.84 and 2,029.72.

In 1914-15, the average per mile of road of revenue producing freight carried one mile was 799,433.93 tons, and passengers, 121,609.14; in 1915-16, the figures were, freight, 1,028,785.12 tons, and passengers, 130,201.02.

The number of tons all freight, per mile of road, carried one mile in 1914-15 was 820,680.22, and in 1915-16, 1,043,694.43.

The train mileage in 1914-15 was: passenger, 3,027,348 miles; freight, 4,505,162 miles; and in 1915-16, passenger, 3,099,463 miles; freight, 4,791,476 miles.

The loaded car mileage in 1914-15 was 69,047,776 miles, and in 1915-16, 81,714,686 miles.

The empty car mileage in 1914-15 was 17,241,555 miles, and in 1915-16, 18,178,425 miles.

The caboose car mileage in 1914-15 was 4,237,833 miles, and in 1915-16, 4,515,858 miles.

The total car mileage in 1914-15 was: passenger, 20,240,606 miles, and freight, 90,527,164 miles; in 1915-16 the figures were: passenger, 21,506,251, and freight, 104,408,969.

The total freight moved in 1914-15 was 4,808,836 tons; of this quantity 4,529,002 tons were revenue producing. In 1915-16 the total freight moved was 5,680,178 tons, of which 5,447,220 tons were revenue producing.

Repairs to passenger cars cost, per car, in 1914-15, \$738.11, or per car mile, 1.84 cents; and in 1915-16, \$717.77, or per car mile, 1.67 cents.

Repairs to freight cars cost, per car, in 1914-15, \$55.62, or per car mile, 0.86 of a cent; and in 1915-16, \$60.12, or per car mile, 0.81 of a cent.

Repairs to locomotives cost, per locomotive, in 1914-15, \$2,255.09, or per locomotive mile, 9.39 cents; and in 1915-16, \$1,930.91, or per locomotive mile, 6.86 cents.

PRINCE EDWARD ISLAND RAILWAY.

This is a narrow gauge railway, 3 feet 6 inches. It extends from Tignish to Georgetown, 158.60 miles, and from Charlottetown to Murray Harbour, 52.30 miles, with branches to Souris, Elmira and Cape Traverse. The length of the road operated was 274.6 miles.

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CAPITAL ACCOUNT.

There was an addition of \$1,350,472.73 to the expenditure on capital account during the year ended March 31, 1916, making the total capital expenditure \$10,841,372.44. The principal item was \$1,322,593.34 for the car ferry between Carleton Point, P.E.I., and Cape Tormentine, N.B., on the mainland.

REVENUE ACCOUNT.

The gross earnings amounted to \$390,926.82, and the working expenses to \$545,020.62, leaving a deficiency of \$154,093.80. Compared with the previous year, there was a decrease of \$24,568.62 in the gross earnings, and a decrease of \$53,206.35 in the working expenses.

The expenditure on revenue account (working expenses) is classified under five heads, with their several sub-heads. It is comprised in the following: Maintenance of way and structures, \$144,865.30; maintenance of equipment, \$85,304.79; traffic expenses, \$10,686.59; transportation expenses (rail), \$283,068.70; and general expenses, \$18,095.24.

The number of passengers carried was 412,535, a decrease compared with the previous year of 10,961, and this traffic produced \$181,518.96, a decrease of \$2,897.29. Of freight 118,862 tons were carried, a decrease of 6,310 tons. The freight earnings amounted to \$181,518.96, a decrease of \$2,897.29. The earnings from mail and express amounted to \$34,953.34, a decrease of \$8,503.70.

The engine mileage was 455,503 miles; the train mileage 367,614 miles; the car mileage 2,280,639 miles.

The gross earnings per mile of railway amounted to \$1,422.07; per engine mile, 36 cents; per train mile, \$1.06; and per car mile, 17.14 cents.

The working expenses per mile of railway aggregated \$1,982.61, and per train mile, 148.26 cents.

The value of stores on hand on March 31, 1916, was \$54,045, comprised in ordinary stores, including fuel, \$35,595.04, and road material, \$18,450.46.

Details will be found in the reports of the Comptroller and other officers, in the appendices, Part VI.

WINDSOR BRANCH.

This road runs from Windsor Junction, on the Intercolonial Railway, to Windsor, N.S. It is 32 miles in length.

The road is leased to the Dominion Atlantic Railway Company (C.P.R.) for a period of 99 years from January 1, 1914, at an annual rental of \$22,500.

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NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

Under an agreement, dated March 18, 1915, ratified by the Act of 1915, chap. 16, and under an Order in Council of May 12, 1915, this railway has been purchased by the Government, as part of the Government Railway system, for the sum of \$270,000. The agreement provided that it should be held to have come into force on August 1, 1914, and that the Government should have the right to sole possession, to operate the road, and to receive all its revenues, until the transfer is completed and the purchase price paid. The transfer has not yet been completed, but the road was taken over on August 31, 1914, and has since been operated by the Government.

The road is 36.05 miles in length, and runs from Sackville to Cape Tormentine, N.B., forming a connection between the Intercolonial Railway and the new car ferry which will be operated between Cape Tormentine and Carleton Point, on Prince Edward Island.

The working expenses to March 31, 1916, amounted to \$76,844.63, and the gross earnings to \$50,414.34, leaving a deficit of \$26,430.39. In addition, \$10,186.29 was paid from capital as interest at 4 per cent from August 1, 1914, to July 31, 1915, on the purchase price, pending its payment.

During the fiscal year the sum of \$24,999.97 was expended to bring the road up to the standard of the Intercolonial branch lines. Details as to working expenses, traffic, etc., will be found in the reports of the General Manager of Government Railways and other officers, Appendix VI.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

Under an agreement, dated August 1, 1914, ratified by the Act of 1915, chap. 16, and under an Order in Council of August 27, 1914, a lease of this railway has been entered into by the Government for a term not exceeding five years, at an annual rental of \$90,000, payable half-yearly, with option of purchase at any time within that period for the sum of \$2,700,000. The road was taken over, as part of the Government Railway system, on August 1, 1914. It is 111.30 miles in length, extending from the Intercolonial Railway at Campbellton, N.B., to St. Leonards, N.B.,

During the fiscal year the sum of \$2,637.47 was expended on capital account to bring the road up to the Intercolonial Railway standard for branch lines. The working expenses amounted to \$116,651.38, and the gross earnings to \$104,623.49, leaving a deficit of \$12,027.89. In addition to the working expenses, the sum of \$90,000 was paid as rental.

Details as to working expenses, earnings, traffic, etc., will be found in the reports of the General Manager of Government Railways, and other officers, Appendix VI.

ST. JOHN AND QUEBEC RAILWAY.

By the Act of 1912, chapter 49, a certain agreement, dated the 5th of March, 1912, made on behalf of the Dominion and the province of New Brunswick and the St. John

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and Quebec Railway Company for leasing to the Dominion, for a term of ninety-nine years, the company's railway, when fully constructed, from the city of St. John, N.B., to a point of connection with the Transcontinental Railway at or near the town of Grand Falls, N.B., was ratified; the Act to come into force on proclamation by the Governor in Council. The agreement provided that the railway should be completed and equipped by the 1st of November, 1915; further, that on construction and equipment of certain sections, the Dominion would lease and operate the same.

The road extends from Centreville to Gagetown, 119.87 miles. The portion from Centreville to Fredericton was taken over for operation by the Canadian Government Railways on January 1, 1915, and the portion from Fredericton to Gagetown on March 2, 1915.

The working expenses amounted to \$90,757.13 and the gross earnings to \$57,742.71, leaving a deficit of \$33,014.42.

Details as to working expenses, earnings, traffic, etc., will be found in the reports of the General Manager of Government Railways and other officers, Appendix VI.

HUDSON BAY RAILWAY.

This railway will run from The Pas, Manitoba, a point on the river Saskatchewan where connection is made with the Canadian Northern Railway system, to Port Nelson, on the western coast of Hudson bay.

The work of construction for the first 185 miles, from The Pas to Thicket Portage, was placed under contract in August, 1911. A contract for a further distance of 65 miles, from Thicket Portage to Split Lake Junction, was let on September 20, 1912, and a third contract, covering the distance, 165 miles, from Split Lake Junction to Port Nelson, on December 17, 1912, a total distance of 418 miles.

The final location into Port Nelson was completed in August, 1914, making the total length of the line from The Pas to Port Nelson, 424 miles. By the end of the fiscal year, March 31, 1916, grading had been completed to mile 378, or within 47 miles of Port Nelson; the track had been laid and the telegraph line built up to mile 241, the first crossing of the river Nelson, Manitou rapids; the cantilever bridge at this point has a total length of 608 feet, and is practically completed. The right of way has been cleared to mile 395.

The work of constructing the terminals for the railway at Port Nelson has been carried on by the Department with a force under an engineer in charge, whose report will be found with the report of the Chief Engineer in Appendix III.

The construction of the permanent deep water works, giving connection between the mainland and deep water, by a system of steel bridges, seventeen spans, has made rapid progress.

In this connection it is important to note that in the season of navigation of 1915 occulting acetylene gas beacon lights, visible at a distance of 8 miles, were established

by the Department of Marine and Fisheries at a number of points in Hudson bay and Hudson straits, as follows: On the cliff at the north end of Goodwin island; on Resolution island (Hatton headland); at the east extremity of Wales island; on the eastern end of Rabbit island (at the entrance to Ashe inlet); on the west end of Charles island; on the south end of Nottingham island; on the northwesterly island of the Digges group. All the above are in Hudson straits. In Hudson bay itself the following lights were established: On the north end of Mansel island; on the south-east point of Coats island; on the north end of Cape Tatnam; and on Nelson shoal, approaching Port Nelson; this last is visible for a distance of 11 miles.

Communication with Port Nelson is afforded by means of Marconi wireless stations established at that point and at The Pas.

The expenditure for the fiscal year ended March 31, 1916, was \$4,889,131.77, making the total expenditure up to that date. \$15,749,908.43.

NATIONAL TRANSCONTINENTAL RAILWAY.

Under an agreement, dated July 29, 1903, ratified by the Dominion Act of that year, chap. 71, and under a modifying agreement dated February 18, 1904, ratified by the Act of that year, chap. 24, the Grand Trunk Pacific Railway Company, a company incorporated by the Act of 1903, chap. 122, have undertaken certain obligations in respect of the construction and operation of a line of railway, wholly upon Canadian territory, between the city of Moncton, in the province of New Brunswick, and the navigable waters of the Pacific ocean. The railway is composed of two divisions, namely, the eastern division, between Moncton and Quebec, thence westerly through the northern part of the provinces of Quebec and Ontario, and, in the province of Manitoba, to the city of Winnipeg, and the western division, between Winnipeg and the Pacific ocean. The eastern division is being constructed by the Government under commissioners appointed by the Governor in Council, and on completion is to be leased to and maintained and operated by the company, who undertake to construct at their own cost, and maintain and operate, the western division. The lease of the eastern division is to be for a period of 50 years, at a rental of three per cent per annum upon the cost of its construction; the first seven years of the term to be free of rent; both divisions are to be equipped with modern and ample rolling stock by the company, the first equipment to be of a value of not less than \$20,000,000.

By way of assistance to the company in the construction of the western division, it is provided that the Government shall guarantee payment of the principal and interest of an issue of bonds to be made by the company for an amount sufficient to produce a sum equal to 75 per cent of the cost of its construction; but not to exceed \$13,000 per mile in respect of the prairie section from Winnipeg to the eastern limit of the Rocky mountains. This limit has been established as the east bank of Wolf creek, a point 120 miles west from Edmonton.

By the Act of 1905, chap. 98, three deeds of trust by way of mortgage, set out in the said Act, were ratified and confirmed, namely, one dated June 10, 1905, between

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the Grand Trunk Pacific Railway Company, the Royal Trust Company, and His Majesty, to secure the issue of first mortgage bonds; the second dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of second mortgage bonds, and the third, also dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of first mortgage bonds in respect of the branch line designated as the "Lake Superior Branch."

Payments from the proceeds of the bonds of the company for work done, etc., on the western division, are made from time to time on certificates given by the Government Chief Engineer of this division, showing approved expenditures.

By the Act of 1909, chap. 19, authority was given for aiding in the completion of the construction of the "prairie" section by a loan to the company of \$10,000,000, to be secured, as collateral, subject to any prior lien, by a mortgage on the "prairie" section of their road; such loan to bear interest at the rate of 4 per cent per annum, and to be repayable in ten years.

This loan, which is dealt with by the Finance Department, was duly made; the mortgage deed being dated May 22, 1909.

By the Act of 1913, chap. 23, authority was given for a loan to the company not exceeding \$15,000,000, at 4 per cent interest, the loan being repayable by July 1, 1923. Under this authority, \$15,000,000 has been advanced to the company. Its debentures to an equal amount have been taken by the Government in pledge as security for this loan, as provided by the Act.

By the Act of 1913, chap. 24, authority was given for the purchase of 3 per cent bonds of the company to the extent of the balance of the authorized issue. Such balance, to the amount of £6,800,000, has been purchased by the Government.

By the Act of 1914, chap. 34, authority was given for the guarantee of the principal and interest of an issue of four per cent bonds to be made by the company for the purpose of aiding the provision of the balance of moneys required for the completion of the "Mountain Section" to provide for expenditures not exceeding \$16,000,000; such bonds to be secured by a new trust deed granting mortgages or charges upon the present and future undertakings and properties of the company; such guarantee to be accepted as a full, final and satisfactory settlement of all claims by the company for further aid in respect of the construction of the western division.

In pursuance of this Act, a trust deed securing the issue of bonds to the amount of £3,280,000, was executed on August 5, 1914.

The several Government expenditures on the eastern division are to be made from appropriations by Parliament for the purpose, and on the recommendation of the Minister of Railways and Canals, to whom accounts of all receipts, expenditures and liabilities are to be furnished monthly.

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The Board of Commissioners are required to furnish annually a report to the Governor in Council, through the Minister of Railways and Canals, showing the receipts and expenditures of the year, and other information as to the railway, which report is to be submitted to Parliament.

The headquarters of the board are in the city of Ottawa.

By various Acts and Orders in Council, the time for completion has been extended, and by the Act of 1914 (the Grand Trunk Pacific Railway Guarantee Act), sec. 11, it was provided that "notwithstanding anything contained in the said trust deed of tenth of June, 1905, or in any Act or Order in Council heretofore passed, the date for completion of the western division shall be the 31st of December, one thousand nine hundred and fifteen." By sec. 2 of this Act, the "Western Division" was defined as extending from the city of Winnipeg to the Pacific ocean.

By the Act of 1912, chap. 39, the construction of the eastern division, and its operation, until completed and leased to the Grand Trunk Pacific Railway Company, was placed under the charge and control of one commissioner (in place of four) to be appointed by the Governor in Council, and to hold office during pleasure. By an Order in Council, dated April 4, 1912, Mr. R. W. Leonard, C.E., the Chairman of the Commission as then existing, was appointed as such commissioner. Mr. Leonard having resigned, the Minister of Railways and Canals was appointed commissioner by an Order in Council of July 3, 1914, as authorized by the Act of that year, chap. 43.

The twelfth report of the board, namely, for the fiscal year ended March 31, 1916, has been prepared, and will be laid before Parliament in due course. It is printed as a separate report.

EASTERN DIVISION.

(Moncton to Winnipeg.)

The total mileage from Moncton, N.B., to the west side of Water street, Winnipeg, is 1,804.52 miles. This, however, includes the Quebec bridge over the river St. Lawrence, in course of construction, the length of which will be 1.10 mile. Track laying between Moncton and Winnipeg was completed (with the exception of the Quebec bridge) in November, 1913, the last spike being driven on the 17th of that month.

Pending the completion of the Quebec bridge, the communication across the river will be made by a train ferry.

The total expenditures by the commissioners during the fiscal year ended March 31 1916, on the eastern division, amounted to \$5,424,517.06, against which is credited for rental of the line from Lake Superior Junction to Winnipeg, operated by the Grand Trunk Pacific Railway Company from September 1, 1912, to April 30, 1915, the sum of \$1,501,333.33, and outstanding accounts in favour of that company \$24,719.85, leaving the cash expenditure \$3,898,463.88, making their total

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expenditure from the date of their organization in September, 1904, to March 31, 1916, \$156,701,209.65, which includes \$36,182.91 for operation in the year 1912-13 of the section from Moncton to Edmundston, N.B. Detail summaries of the expenditures during the past fiscal year are furnished by the accountant of the commission.

The statement of the accountant of the department (Part I of the Appendices) shows the capital expenditure on the eastern division for the year ended March 31, 1916, to be \$7,078,451.69 (including \$3,179,987.81 for rolling stock), and the total expenditure on capital up to that date, \$159,881,197.46.

During the year 1913-14 the road was operated to a limited extent by the Intercolonial Railway, for the distance 285.25 miles, between Moncton, N.B., and Escourt, Que., a point 54.85 miles west of Edmundston, N.B. During the fiscal year 1914-15 the operation of the road was carried on by the Intercolonial Railway between Moncton and Chaudière, a distance of 455.15 miles.

On May 1, 1915, the National Transcontinental Railway from the city of Quebec to Winnipeg, a distance of 1,355.95 miles, was taken over for operation as part of the Canadian Government Railway system, and was put in operation as such on June 1, 1915.

On July 1, 1915, the Lake Superior branch, between Lake Superior Junction on the Transcontinental Railway and Fort William, Lake Superior, 192.09 miles, was taken over for operation by the Canadian Government Railways, having been leased by the Government from the Grand Trunk Pacific Railway Company.

Authority for the leasing of this branch by the Government was given by the Act of 1915, chapter 18, which provided that any contract for leasing for more than five years, or for the acquisition of the branch, was to be subject to ratification by Parliament.

Under authority of an Order in Council of June 2, 1915, a contract was entered into, dated June 29, 1915, for leasing the branch for 999 years from May 1, 1915, at a rental of \$600,000 a year, payable half-yearly, the first payment to be made on November 1, 1915. The contract provided for an option to the Government for the purchase of the branch for \$13,333,333.33 at any time after March 31, 1936, on notice of one year; the lease to be ratified before June 1, 1920.

The whole line between Moncton and Winnipeg is operated by the Canadian Government Railways, the distance being 2,002.71 miles, including the Lake Superior branch.

The working expenses amounted to \$3,860,528.75, and the gross earnings to \$3,758,387.39, leaving a deficit of \$102,141.36. In addition, \$300,000 was paid as rental for the Lake Superior branch, and a further sum of \$250,000 was charged up to meet the rental for the five months ending March 31, 1916, though not payable until May 1, 1916.

Details will be found in the statements of the Comptroller and Treasurer of Government Railways, herewith (Appendix, Part VI).

WESTERN DIVISION.

The Western Division extends from the western boundary of the Winnipeg terminals, on the east bank of the river Assiniboine, in the city of Winnipeg, to the city of Prince Rupert, on the Pacific coast, a distance of 1,745 miles.

It is divided into two sections, namely, the "Prairie Section," extending from Winnipeg to the east bank of Wolf creek—a point 120 miles west of Edmonton, the capital of the province of Alberta—a distance of 915 miles, and the "Mountain Section," which extends from the east bank of Wolf creek to Prince Rupert, a distance of 830 miles. The terminals extend for a further distance of $3\frac{1}{4}$ miles around the water front of the city of Prince Rupert.

This division is in course of construction by the Grand Trunk Pacific Railway Company, under the Government guarantee agreements above mentioned. The Government chief engineer of the division, on whose certificates payments are made to the company, is Sir Collingwood Schreiber, K.C.M.G., whose report, showing the position of the work at the close of the fiscal year, March 31, 1916, will be found printed in the appendices hereto, Part IV. From this report it appears that the position of the work is as follows:—

PRAIRIE SECTION.

In order to carry out the contract requirements, work to the estimated value of \$2,372,500, covering the making up of embankments, ballasting, passenger station and yard at Edmonton, and the erection of permanent structures on the first 280 miles west from Winnipeg, still remained to be done at the close of the fiscal year.

In this connection, it has to be noted that in his previous report for 1914-15, the chief engineer set down the aggregate value of the works required to complete the Prairie section according to contract as about \$950,000. He now gives specific values of tiems, and, further, includes the sum of \$1,200,000 for the erection of permanent in place of temporary structures west of Winnipeg, thus increasing the total amount as now stated.

He observes that if temporary structures be admitted, and a joint use of the Edmonton station and yard be legalized, his estimate of the cost to complete the section would be reduced to \$737,500.

MOUNTAIN SECTION.

The work remaining to be done includes the filling in of temporary trestles, certain ballasting, roundhouses, machine shops, completion of divisional stations, and further facilities at the Prince Rupert terminals. The estimated cost to complete the section is \$3,047,770.

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TOTAL EXPENDITURE.

The approved and certified expenditure up to March 31, 1916, amounted, on the "Mountain Section" to \$93,160,195.76, of which the amount paid to the company was \$70,769,300.85, including interest, and on the "Prairie Section" up to October 31, 1907, to \$15,556,482.84, of which the percentage payable was \$10,335,482.92. No further certificate has been issued for this section.

The whole division between Winnipeg and Prince Rupert has been operated since September 6, 1914.

QUEBEC BRIDGE.

On August 29, 1907, the cantilever bridge in course of construction over the river St. Lawrence by the Quebec Bridge and Railway Company (originally commenced under a subsidy of \$1,000,000 authorized by the Act of 1899, chapter 7, and a subsidy agreement, dated November 12, 1900), collapsed.

Under the terms of an agreement with the company, dated October 19, 1903, ratified by the Act of 1903, chapter 54, the Government had undertaken to guarantee the principal and interest of the bonds or other securities of the company to the limit of \$6,678,200, the company releasing claim to the balance remaining unpaid of the said subsidy; such guarantee to be secured by mortgage on the company's franchises, tolls and property. On February 1, 1904, a mortgage trust deed was executed, conveying to the Royal Trust Company (Montreal) as trustees, all the property and franchises of the company, and providing for the issue of bonds accordingly.

It was provided in this agreement that the Government should have the right at any time, on one month's notice, to take over the company's undertaking, assets, property and franchises, on paying the shareholders the amount of their stock at par not exceeding \$265,585.70, with simple interest at 5 per cent and a premium of 10 per cent on the par value of the paid-up shares.

Of the said subsidy of \$1,000,000, there had been paid to the company a total of \$374,353.33 prior to the execution of the above agreement, and subsequent to its execution, payments were made from the proceeds of their bonds on certificates of the Government engineer covering work done and materials delivered.*

After the collapse of the bridge, the right of the Government to take over the company's undertaking was exercised under the authority of an Order in Council of August 17, 1908. The date of assumption was December 1, 1908. The total of the amounts paid by the Government to the several shareholders for their shares was \$355,279.07, payment being made to the parties concerned in November, 1908. The deed of assignment and transfer from the company to the Government was dated October 18, 1909.

* The history of the Government's connection with the bridge prior to its collapse is given in the Department Annual Report of 1907-8, p. xlvii.

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Under authority of an Order in Council of August 17, 1908, a board of three engineers was constituted for preparation of a new design and specification, and for the reconstruction of the bridge, with powers to call in expert engineers as advisers on points of difference that might arise.

In June, 1910, the formal call for tenders was made by newspaper advertisement. In response, 35 different propositions were submitted, which were duly considered by the board, who, finally, after calling in advisory engineers, recommended the acceptance of an alternative design sent in by the St. Lawrence Bridge Company (with whom are associated the Dominion Bridge Company and the Canadian Bridge Company). This design the board considered to possess certain features of strength, simplification of erection, economical distribution of material, and general appearance which, in their opinion, would produce a bridge that "would compare most favourably with the highest type of long-span bridges in existence." By an Order in Council of March 31, 1911, authority was given for entrance into contract with the conjoined companies named, and such contract was executed under date April 4, 1911. The contract price is 9.02 cents a ton, and will aggregate about \$8,650,000; a saving of about \$2,600,000 having been effected by the elimination of the highways for vehicular traffic contemplated in the original design; the contract date for completion is December 31, 1915.

The bridge will have a total length of 3,228 feet, or about three-fifths of a mile. The centre span will be 1,800 feet long; the length of the suspended portion of it being 640 feet. This span will, for a length of 760 feet over the channel of the river, have a height of 150 feet between its lower members and the high water level of the river. The two cantilever arms will each be 580 feet long. The width of the bridge between trusses will be 88 feet. The bridge will comprise a double-track railway and two sidewalks for foot passengers.

Under date January 10, 1910, a contract for the substructure was entered into with Messrs. M. P. and J. T. Davis, whose tender was the lowest of three obtained after newspaper advertisement calling for tenders; and supplementary agreements necessitated by changes in the caisson design and in the location of the north anchor pier, were made with them on May 23, 1910, and September 2, 1911.

The Board of Engineers for reconstruction, as originally constituted, has been modified by retirements and is at present composed as follows: Charles N. Monsarrat, M. Can. Soc. C.E., chairman and chief engineer; Ralph Modjeski, Am. Soc. C.E., and C. C. Schneider, Can. Soc. C.E., and past president Am. Soc. C.E.

The headquarters of the board are in Montreal.

The report of the chairman and chief engineer for the year ended on March 31, 1916, will be found printed in the appendices hereto, Part V.

The report shows that during the year the whole structure was completed, with the exception of the suspended span which was being erected at a point about 3 miles down the river.

Plans and photographs will be found at the end of this report.

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The expenditure during the fiscal year ended March 31, 1916, was \$2,746,813.70, paid out of capital, making the total capital expenditure on the reconstruction of the bridge, \$10,510,906.84. Expenditure had previously been made from income, namely, for the year 1908-9, \$422,867.12 (in which is included the amount, \$355,279.07, paid for acquiring the stock of the Quebec Bridge and Railway Company, and \$31,765.44, the expenses of the commission of inquiry into the causes of the collapse of the old structure), and for the year 1909-10, \$111,788.02 for the preparation of plans, etc., or a total of \$534,655.14, against which there is credited the sum of \$100,000 paid in 1910 to the Government by the Phoenix Bridge Company, the contractors for the original superstructure, in the final adjustment of claims arising out of the collapse. The total net expenditure by this department up to March 31, 1916, after crediting the sum of \$91,188.10, the proceeds of the sale of scrap and unused material from the collapsed bridge, is \$10,945,561.98. This is irrespective of the amount of subsidy, \$374,353.33, paid to the Quebec Bridge Company as above mentioned, and of the amounts paid by the Finance Department (namely, for the guaranteed bonds of the company, \$6,424,781.00; to the Province of Quebec, \$250,000; to the City of Quebec, \$300,000; and \$485.20, an award of the Supreme Court, in all \$6,975,266.20), making the total expenditure \$18,295,181.51.

WELLAND SHIP CANAL.

This important work has for its object the affording of greater and better accommodation for a larger class of vessels than those that can be used on the present canal.

The present canal lies between Port Colborne, Lake Erie, and Port Dalhousie, Lake Ontario. Its length is $26\frac{3}{4}$ miles, and comprises 25 lift locks, the dimensions of which are 270 feet by 45 feet, with a depth of 14 feet of water on the sills.

The proposed Welland ship canal as finally located follows the course of the present canal from Port Colborne on lake Erie to Allanburg, half way across the peninsula. From this point an entirely new cutting is to be made, crossing the present canal just below lock No. 25, the water level of the two canals at this point being the same, viz.: 568 feet above sea level. The new canal again crosses the present one below lock No. 11, the water of both canals at this point being at an elevation of 382 feet above sea level.

The proposed canal enters lake Ontario at the mouth of the Ten Mile creek about three miles east of Port Dalhousie. The total length of canal from lake to lake is 25 miles; and the difference in level between the two lakes $325\frac{1}{2}$ feet, is to be overcome by seven lift locks, each having a lift of $46\frac{1}{2}$ feet. The dimensions of the locks are to be 800 feet in length by 80 feet in width in the clear and with 30 feet of water over the mitre sills at extreme low stages in the lakes. The width of the canal at the bottom will be 200 feet and, for the present, the canal reaches will be excavated to a depth of 25 feet only, but all structures will be sunk to the 30-foot depth, so that the canal can be deepened at any future date by dredging out the reaches.

A new western breakwater will be built at Port Colborne to ensure quiet water in the harbour during storms.

The outer entrance piers in Lake Ontario will be placed about $1\frac{1}{2}$ miles from shore, where the depth of water is 30 feet; a wide channel will be dredged out from these piers and an embankment formed on either side of it about 500 feet wide. The lock walls will be 82 feet high above the top of the gate sills.

The work is divided into 9 sections, of which section No. 1, approximately 3 miles, at the Lake Ontario end of the canal, was placed under contract on the 1st of August, 1913; section No. 2, approximately $4\frac{1}{2}$ miles, was placed under contract on the 31st of December, 1913; section No. 3, approximately 2 miles, was placed under contract on the 4th of October, 1913; section No. 5 was placed under contract on the 22nd of December, 1913. A large quantity of work has been done, which is fully described in the report of the Engineer in Charge, and will be found in Appendix 6 herewith, together with a number of photographs and plans, at the end of the report.

During the year 1913-14 the sum of \$994,257.60 was expended, during the fiscal year 1914-15, the sum of \$4,074,200.69, and during the fiscal year 1915-16, \$4,892,105.15, making the total expenditure \$9,960,563.44; to this is to be added for previous expenditure, for preliminary surveys, borings, etc., \$187,238.15, making the total cost up to the 31st of March, 1916, \$10,147,801.59.

SUBSIDIZED RAILWAYS.

Information as to subsidized railways is given in the statements of the accountant and of the law clerk of the department, respectively, which will be found in the appendices hereto, Parts I and II. The accountant's statements show all payments made, year by year, since the beginning of the system of railway subsidies; the law clerk's statement shows the several subsidy agreements entered into during the past year, with certain details of the specification in each case.

The total payments made on subsidy account during the year ended March 31, 1916, amounted to \$1,400,171.42, paid out of income.

BOARD OF RAILWAY COMMISSIONERS FOR CANADA.

By the Act 3, Edward VII, chap. 58 (1903), amending and consolidating the law respecting railways, the Railway Committee of the Privy Council was abolished, and in lieu thereof a Board of Commissioners, under the above title, was created, to consist of three members (increased to six by the Act of 1908, chap. 62), to be appointed by the Governor in Council; this Act was brought into force on February 1, 1904, by proclamation, on the authority of an Order in Council, dated January 18, 1904, which also appointed certain persons as commissioners. By the Act of 1908, chap. 61, the jurisdiction of the board was extended to cover the operation of telegraph and telephone lines, and by the Act of 1908, chap. 62, certain amendments were made to its constitution and otherwise. By the Act of 1909, chap. 31, the board was empowered to determine the maximum price to be charged for electricity developed through water-powers leased from the Crown. An Act of 1910, chap. 50, amended certain provisions

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of the Railway Act regarding the powers of the board, and the Act of the same year, chap. 57, extended the jurisdiction of the board to cover the fixing by it of the tariffs of wireless telegraph and marine electric telegraphs or cables. The Act of 1911, chap. 22, gave powers to the board to require from railway companies the establishment of a staff of fire-rangers, modified the previous enactments regarding the disposal of electricity developed through Government leased water-powers, and amongst other enactments, made provision for action, through the board, to ensure the efficient operation of subsidized railways. The office of the board is at Ottawa, though it is authorized to hold sessions in any part of Canada. Its decisions and orders are final, subject to appeal to the Supreme Court upon questions of jurisdiction or law, and also to action thereon by the Governor in Council, in his discretion.

It is required to make annually a report of its proceedings, which report is laid before Parliament. The report for the year ended March 31, 1916, has been received, and will be laid before Parliament in due course.

CANALS.

The total expenditure on the Dominion canals for the twelve months ended March 31, 1916, was \$7,906,863.37, comprising \$6,142,148.96 charged to capital, \$397,664.95 charged to income, \$800,977.56 for staff, and \$566,071.90 for repairs; the last two items being charged to revenue.

The balance of rentals due on April 1, 1915, was \$152,024.29. The rentals accrued during the year amounted to \$297,015.26, making a total of \$449,039.55. Of this amount, there was collected during the year a total, after deducting abatements aggregating \$28,928.22, of \$267,055.95. The balance remaining due on March 31, 1916, was \$153,055.38. It should be observed that, as a general rule, rentals are payable in advance, this fact accounting, to a considerable extent, for the large amount of rental due at the end of each year.

The total revenue collected amounted to \$446,722.21, the balance being made up of wharfage dues, fines, etc., and a total of \$165,925.20 derived from the operation of the Port Colborne grain elevator on the Welland canal.

No tolls have been charged on any of the Dominion canals since 1903-4.

Summaries of these expenditures and receipts will be found in the statements furnished by the Accountant of the Department, printed in the appendices, Part I, of the present report.

The above figures relate to the fiscal year 1915-16, but very voluminous statistics relating to canal traffic, and various commercial statistics for the season of navigation of the year 1915, will be found in the "Canal Statistics," which are issued as a separate report.

The principal facts of these statistics, summarized, are as follows:—

The total traffic through the several canals of the Dominion for the season of 1915 amounted to 15,198,803 tons, a decrease of 21,824,434 tons compared with the previous year; 250,836 passengers were carried, a decrease of 36,490.

The following features of the principal canal traffic during the season of 1915 will be of interest:—

On the Welland canal, 3,061,012 tons of freight were moved, a decrease of 799,957 tons. Of the total, 1,306,803 tons were agricultural products, and 308,660 tons were produce of the forest; of coal, 480,181 tons were carried; 2,841,039 tons were through freight, of which 2,155,304 tons passed eastward.

Of the through freight, Canadian vessels carried 1,916,015 tons, a decrease of 1,020,725 tons, and United States vessels 925,044 tons, an increase of 136,685 tons.

The total through freight passed eastward and westward through this canal to United States ports was 485,616 tons, a decrease of 23,463 tons compared with the year 1914.

The quantity of grain passed down the Welland and St. Lawrence canals to Montreal was 1,831,773 tons, a decrease of 6,031 tons, as compared with the previous year; no transshipments have been made at Ogdensburg since 1903.

On the St. Lawrence canals, 3,409,467 tons were moved, a decrease of 982,026 tons, of which 2,297,261 tons were eastbound through freight and 567,801 tons westbound freight; 1,204,523 tons were agricultural products, 1,025,821 tons coal, and 601,255 tons forest products.

On the Ottawa River canals, the total quantity of freight moved was 272,370 tons, a decrease of 62,762 tons, of which 155,669 tons were products of the forest.

On the Chambly canal, 478,707 tons were moved, an increase of 41,802 tons, of which 280,117 tons were produce of the forest and 113,988 tons of coal.

On the Rideau canal, 120,781 tons were carried, a decrease of 30,958 tons; 10,211 tons being produce of the forest and 7,514 tons coal.

On the St. Peters canal, 2,895 tons were carried, a decrease of 51,285 tons; 2,003 tons were coal. The canal was closed to public traffic, during the season of 1915, for the reconstruction of the lock.

On the Murray canal, 30,728 tons passed, a decrease of 53,179 tons.

On the Trent canal, 49,904 tons were moved, a decrease of 17,811 tons, of which 44,575 tons were produce of the forest.

On the St. Andrews lock, on the Red river, Manitoba, the volume of business was 21,982 tons.*

On the Sault Ste. Marie canal, the total movement of freight was 7,750,957 tons, being a decrease of 19,848,227 tons. There were 4,374 passages of vessels, the number of lockages being 3,496. Of wheat, 63,428,467 bushels, and of other grain, 24,911,588 bushels were carried; also 2,754,040 barrels of flour; 4,046,705 tons of iron ore; 480,181 tons of coal; and 27,621,000 feet, board measure, of lumber.

* This work, which consists of a lock and dam on the Red river, about 15 miles north of Winnipeg, was built and is operated by the Department of Public Works. It affords communication between Winnipeg and lake Winnipeg. It is only mentioned here for statistical purposes.

SESSIONAL PAPER No. 20

The report of the chief engineer of the department, and the reports of the officers under his immediate control, which will be found in Part III of the appendices, give comprehensive information as to the several works under his charge, the principal of which are the Hudson Bay railway, the Trent canal, the new Welland ship canal, and the terminals of the Intercolonial Railway near Halifax.

RAILWAY STATISTICS.

The digest of the sworn statements of railway companies relating to their operations in Canada for the twelve months ended June 30, 1916, is prepared by the departmental comptroller of statistics, and is issued as a separate report.

CANAL STATISTICS.

The traffic statistics of the Dominion canals for the season of navigation of 1915 are compiled under the direction of the same officer, and are also issued as a separate report.

I have the honour to be, sir,

Your obedient servant,

A. W. CAMPBELL,
Deputy Minister.

APPENDICES

PART I

STATEMENTS OF THE ACCOUNTANT

SHOWING THE

EXPENDITURE AND THE REVENUE OF
THE DEPARTMENT

FOR THE FISCAL YEAR 1915-16

AND ALSO PREVIOUS YEARS

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GENERAL SUMMARY of the Expenditure and Revenue for the fiscal year ending March 31, 1916; also for the previous years.

Total expenditure for the year \$53,256,669.60.	
Railways, including Quebec bridge.. . . .	\$ 43,627,328 93
Canals.. . . .	7,906,863 37
Railway subsidies.. . . .	1,400,171 42
General expenditure.. . . .	322,305 88
Total	<u>\$ 53,256,669 60</u>

Revenue received \$18,874,630.86.	
Railways.. . . .	\$ 18,427,908 65
Canals.. . . .	446,722 21
Total.. . . .	<u>\$ 18,874,630 86</u>

The expenditure prior to and since Confederation to March 31, 1916, aggregates, on railways, \$693,102,927.90; on canals, \$158,112,633.71, and for general expenditure common to both railways and canals, \$1,155,289.17; making a total expenditure of \$852,370,850.78.

The total capital expenditure on railways, including Quebec bridge, is \$377,146,699.09.

The total capital expenditure on canals amounts to \$118,614,725.75.

The income expenditure of both railways and canals, including a sum of \$74,157,831.59 for railway subsidies, amounts to \$88,554,292.69, and the revenue expenditure to \$268,352,006.15.

The grand total of the revenue received is \$241,116,507.57, of which \$224,912,659.39 was for railways and \$16,203,848.18 for canals.

DEPARTMENT OF RAILWAYS AND CANALS,

July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

EXPENDITURE.

GENERAL STATEMENT of the Expenditure of the Department of Railways and Canals during the Fiscal Year ending March 31, 1916.

	\$	cts.	\$	cts.
TOTAL EXPENDITURE—as per Statements, pages 10 and 11.....			53,256,669	60
Expenditure chargeable to Railways.....	40,562,635	41		
“ “ Railways General.....	317,879	82		
“ “ Quebec Bridge.....	2,746,813	70		
“ “ Railway subsidies.....	1,400,171	42		
Total expenditure, Railways.....			45,027,500	35
Expenditure chargeable to Canals.....	7,717,421	04		
“ “ Canals, General.....	189,442	33		
Total expenditure, Canals.....			7,906	863 37
General expenditure.....	322,305	88	322,305	88
Total expenditure.....			53,256,669	60
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital Account.....	30,044,217	85		
Revenue Account.....	20,775,829	68		
Income Account.....	1,036,450	65		
Consolidated Fund (railway subsidies) Income.....	1,400,171	42		
Total expenditure.....			53,256,669	60
CLASSIFICATION OF EXPENDITURE BY ACCOUNTS—				
Railways—				
Capital expenditure—Railways.....	21,155,255	19		
“ “ Railways, General.....			21,155,255	19
Revenue expenditure—Railways.....	19,407,380	22		
“ “ Railways, General.....	1,400	00		
Income expenditure—Railways, General.....	316,479	82	19,408,780	22
Quebec Bridge—			316,479	82
Capital expenditure—Quebec Bridge.....	2,746,813	70		
Railway Subsidies—			2,746,813	70
Consolidated Fund—Railway subsidies.....	1,400,171	42		
Total expenditure, Railways, \$45,027,500.35.			1,400,171	42
Canals—				
Capital expenditure—Canals.....	6,142,148	96		
“ “ Canals, General.....			6,142,148	96
Income “ Canals.....	348,174	41		
“ “ Canals, General.....	49,490	54		
Revenue “ Canals Staff.....	697,532	44	397,664	95
“ “ Canals Staff, General.....	103,445	12		
“ “ Canals Repairs.....	529,565	23		
“ “ Canals, Repairs, General.....	36,506	67		
Total expenditure on Canals, \$7,906,863.37.			1,367,049	46
General Expenditure—Income account.....	322,305	88	322,305	88
Total expenditure.....			53,256,669	60

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

REVENUE.

GENERAL STATEMENT of the Revenue received by the Department of Railways and Canals during the Fiscal Year ending March 31, 1916.

	\$	cts.	\$	cts.
TOTAL REVENUE RECEIVED DURING FISCAL YEAR.....			18,874,630	86
Revenue from Railways.....	18,427,908	65		
“ Canals.....	446,722	21		
Total revenue as above.....			18,874,630	86
STATEMENT OF REVENUE RECEIVED, IN DETAIL—				
Railways—				
Intercolonial Railway.....	14,068,791	41		
International Railway of New Brunswick.....	104,623	49		
National Transcontinental Railway.....	3,758,387	39		
New Brunswick and Prince Edward Island Railway.....	50,414	34		
Prince Edward Island Railway.....	390,926	82		
St. John and Quebec Railway.....	\$ 57,742	71		
Less excess of revenue in 1914-1915 which should have been in Open accounts.....	2,977	51		
	54,765	20		
Total revenue from Railways.....			18,427,908	65
Canals—				
Welland Canal.....	79,776	79		
“ Elevator, Port Colborne.....	165,925	20		
Welland Ship Canal.....	100	00		
Lachine Canal.....	143,929	22		
Beauharnois Canal.....	15,040	15		
Cornwall Canal.....	4,993	10		
Williamsburg Canal.....	1,885	00		
Soulanges Canal.....	3,597	00		
Chambly Canal.....	979	00		
Carillon and Grenville Canal.....	2,386	75		
Rideau Canal.....	9,124	43		
Trent Canal.....	17,830	33		
St. Peters Canal.....	2	00		
Sault Ste Marie Canal.....	493	00		
Murray Canal.....	215	00		
Ste. Anne's Lock and Canal.....	444	24		
Chats Falls Canal.....	1	00		
			446,722	21
Total revenue received during fiscal year.....			\$ 18,874,630	86

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

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STATEMENT of Expenditure on Canals for year ending March 31, 1916.

Name of Work.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.		Total Expenditure during year.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Carillon and Grenville.....			26,503 86	14,333 45	40,837 31
Chambly.....		8,499 68	34,968 33	37,179 03	80,647 04
Cornwall.....		4,809 26	84,618 78	41,103 58	130,531 62
Lachine.....	131,261 64		169,033 88	98,759 83	339,155 35
Murray.....			5,681 32	4,082 10	9,763 42
Rideau.....	615 00	49,979 07	61,068 44	84,808 40	196,470 91
Sault Ste. Marie.....			27,119 36	26,771 65	53,891 01
Soulanges.....	33,759 79	11,193 73	40,882 59	33,721 29	119,557 40
Ste. Anne's Lock.....			3,872 12	4,498 66	8,370 78
St. Ours Lock.....			4,204 70	4,497 73	8,702 43
St. Peters.....		207,807 99	1,460 78	22 51	209,291 23
Trent.....	1,013,559 84	29,959 19	50,836 68	44,457 82	1,138,813 53
Welland.....	70,747 54	35,925 49	213,443 22	108,166 26	428,282 51
Welland Ship Canal.....	4,892,105 15				4,892,105 15
Williamsburg.....			33,838 38	27,162 92	61,001 30
	6,142,148 96	348,174 41	697,532 44	529,565 23	7,717,421 04
GENERAL ON CANALS.					
Dredge vessels, Lachine.....				9,322 32	9,322 32
Dredge vessels, Rideau.....				25,532 40	25,532 40
Miscellaneous.....			3,277 45		3,277 45
Statistical Officers.....			34,943 55		34,943 55
Sunday Labour.....			41,991 45		41,991 45
Surveys and Inspections.....		21,190 39			21,190 39
Quebec Canals—					
Dredging.....		1,530 24			1,530 24
Dam at Valleyfield.....		25,976 49			25,976 49
Protection Walls N. Side Lake St. Francis.....		793 42			793 42
Maintenance.....			20,232 67		20,232 67
Hungry Bay Dyke.....				1,651 95	1,651 95
Miscellaneous—					
Compassionate allowances to families of deceased employees..			3,000 00		3,000 00
		49,490 54	103,445 12	36,506 67	189,442 33
Total.....	6,142,148 96	397,664 95	800,977 56	566,071 90	7,906,863 37

Total on Canals, \$7,906,863.37.

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STATEMENT of Expenditure on Railways for Year ending March 31, 1916.

Name of Work.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.	Total.
			Working Expenses.	
RAILWAYS.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Hudson Bay Railway.....	4,889,131 77			4,889,131 77
Intercolonial Railway.....	7,635,050 25		12,551,495 84	
“ “ Improvements and Betterments.....			1,515,895 57	21,702,441 06
International Railway of N.B.....	2,637 47		116,651 38	119,288 85
“ “ (Statutory).....			90,000 00	90,000 00
National Transcontinental Railway.....	3,898,463 88		4,110,528 75	8,008,992 63
National “ (Statutory).....			300,000 00	300,000 00
National “ (Rolling Stock, Statutory).....	3,179,987 81			3,179,987 81
New Brunswick and Prince Edward Island Ry	24,999 97		87,030 93	112,030 90
New Brunswick and Prince Edward Island Ry., as per Act to amend the Government Railway Act and to authorize the purchase of certain railways Sec. No. 4.....	174,511 31			174,511 31
Prince Edward Island Railway.....	1,350,472 73		545,020 62	1,895,493 35
St. John and Quebec Railway.....			90,757 13	90,757 13
Total.....	21,155,255 19		19,407,380 22	40,562,635 41
Quebec Bridge.....	2,746,813 70			2,746,813 70
Railway Subsidies.....		1,400,171 42		1,400,171 42
GENERAL ON RAILWAYS.				
Railway Commission—Maintenance.....		161,757 29		161,757 29
“ Statutory.....		49,500 00		49,500 00
“ Cases.....		1,500 00		1,500 00
Surveys and Inspections.....		36,873 46		36,873 46
Railway Grade Crossing Fund.....		47,079 99		47,079 99
Attendance repairs and alterations to Govern- or General's Car.....		11,500 00		11,500 00
To pay expenses in connection with consolida- tion of Railway Act.....		1,171 75		1,171 75
Contribution of Government Railways to the Faculty of McGill University.....		2,500 00		2,500 00
Contribution of Government Railways to the Faculty of Polytechnic School Montreal.....		2,500 00		2,500 00
Remuneration to Government Director Grand Trunk Pacific Railway.....		2,000 00		2,000 00
Subscription to International Congress, Brus- sels.....		97 33		97 33
Compassionate allowances to families of deceased employees.....			1,400 00	1,400 00
Total.....		316,479 82	1,400 00	317,879 82
Grand totals.....	23,902,068 89	1,716,651 24	19,408,780 22	45,027,500 35
MISCELLANEOUS EXPENDITURE.				
War Appropriation.....		313,740 73		313,740 73
Cost of litigation.....		4,525 65		4,525 65
Gratuities Civil Service Act, 1908.....		4,039 50		4,039 50
Total.....		322,305 88		322,305 88
Grand Total on Railways and Canals, includ- ing miscellaneous expenditure.....	30,044,217 85	2,436,622 07	20,775,829 68	53,256,669 60

Total amount of expenditure, \$53,256,669.60.

DEPARTMENT OF RAILWAYS AND CANALS.

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, Ordinary
Repairs and Working Staff up to March 31, 1916.

BAIE VERTE CANAL.

—	Year ending.	Capital.		Income.	
		\$	cts.	\$	cts.
Government expenditure since Confederation.....	1871			17,929	34
“ “ “	1872			6,399	41
“ “ “	1873			14,943	83
“ “ “	1874			4,018	90
“ “ “	1875			443	00
“ “ “	1876			110	75
“ “ “	1877			22	30
“ “ “	1878				
“ “ “	1879				
“ “ “	1880				
“ “ “	1881			520	00
Total.....				44,387	53

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

BEAUHARNOIS CANAL.†

	Year ending.	Capital.	Rencwals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation		1,611,424 11			
“ “ since “	1868		63,193 75	9,349 99	6,216 98
“ “ “	1869		55 00	9,620 99	6,498 57
“ “ “	1870		27 50	10,117 57	6,384 81
“ “ “	1871			12,316 53	5,722 36
“ “ “	1872		27 50	11,792 46	15,733 38
“ “ “	1873		5,122 50	12,210 73	9,882 06
“ “ “	1874		26 00	15,392 51	10,990 56
“ “ “	1875		36 00	14,399 32	12,253 01
“ “ “	1876			14,465 86	17,170 83
“ “ “	1877			14,377 63	15,207 36
“ “ “	1878			14,383 37	9,861 05
“ “ “	1879			15,015 86	10,370 71
“ “ “	1880	266 15		15,362 61	8,997 34
“ “ “	1881			17,659 93	10,770 67
“ “ “	1882			18,804 53	20,813 86
“ “ “	1883		6,727 44	18,287 77	15,826 71
“ “ “	1884		3,277 98	19,107 38	16,232 61
“ “ “	1885		7,999 79	18,960 40	14,637 70
“ “ “	1886		8,491 80	19,228 90	14,356 00
“ “ “	1887		3,633 57	18,867 45	14,999 88
“ “ “	1888		14,411 97	19,325 05	14,285 98
“ “ “	1889		10,993 52	20,019 11	14,982 54
“ “ “	1890			19,847 42	14,999 20
“ “ “	1891		17,085 68	18,886 86	12,537 39
“ “ “	1892		1,696 23	20,050 01	14,999 80
“ “ “	1893			20,348 34	14,107 11
“ “ “	1894		6,547 72	20,574 53	13,903 46
“ “ “	1895		27,982 93	20,428 59	12,299 49
“ “ “	1896			20,725 47	15,050 85
“ “ “	1897		9,813 15	21,012 64	14,862 98
“ “ “	1898	25,000 00	5,799 34	20,650 00	16,184 92
“ “ “	1899		1,000 00	20,613 32	13,463 01
“ “ “	1900		4,959 22	20,147 59	14,505 30
“ “ “	1901		483 40	20,118 42	14,199 12
“ “ “	1902			16,682 52	6,532 33
“ “ “	1903			8,218 14	10,063 38
“ “ “	1904			9,236 27	11,936 37
“ “ “	1905		14,949 83	9,086 68	10,499 99
“ “ “	1906		2,531 24	9,291 91	18,640 71
“ “ “	1907		598 64	7,552 02	11,711 09
“ “ “	1908		2,260 81	7,032 31	13,019 76
“ “ “	1909		21,758 84		†
“ “ “	1910		24,319 49		†
Total.....		†1,636,690 26	265,810 84	649,574 89	525,691 23

† No expenditure has been incurred since 1910.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued*

CARILLON AND GRENVILLE CANAL.

—	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Imperial Government.....		*			
Government expenditure prior to Confederation.....		63,053 64			
“ “ 1868 to 1879 included since.....	1880	1,721,338 16	50,155 93	112,345 38	126,775 54
“ “	1881	281,514 27		11,959 14	7,625 54
“ “	1882	336,707 53		13,059 18	8,076 91
“ “	1883	433,084 39		14,387 49	7,582 68
“ “	1884	433,575 10		17,479 58	8,310 02
“ “	1885	399,267 16		17,393 91	7,918 42
“ “	1886	157,187 72		19,702 30	10,429 26
“ “	1887	104,973 24	75 00	20,597 82	9,303 31
“ “	1888	20,747 11		20,011 36	19,554 41
“ “	1889	38,996 29		21,531 12	10,086 62
“ “	1890	298 17		22,098 88	10,135 66
“ “	1891	17 58	4,526 61	15,896 16	7,582 38
“ “	1892		4,395 25	21,230 22	10,796 68
“ “	1893	34,585 64	15,036 48	17,458 69	8,620 15
“ “	1894	207 00	42,298 74	16,762 71	10,669 28
“ “	1895	385 55	20,034 94	14,144 98	11,620 09
“ “	1896		5,963 76	15,453 21	12,303 25
“ “	1897	3,850 31		13,995 69	12,161 10
“ “	1898	1,908 44	4,939 20	13,780 29	11,607 95
“ “	1899	82,663 37	5,082 03	11,697 81	10,993 61
“ “	1900	39,999 37		11,919 27	11,478 88
“ “	1901	22,802 27	4,476 50	13,657 06	14,666 71
“ “	1902	4,930 65	9,331 95	13,342 22	13,416 00
“ “	1903		16,998 69	13,725 99	19,366 30
“ “	1904		15,992 52	14,348 17	17,766 28
“ “	1905		9,150 07	16,224 94	17,262 29
“ “	1906		8,715 46	15,858 19	19,977 19
“ “	1907		24,179 33	18,232 71	10,924 72
“ “	1908		9,393 38	16,749 03	7,036 40
“ “	1909		1,387 35	23,019 45	9,775 35
“ “	1910		68,597 35	23,085 54	10,758 01
“ “	1911		10,410 09	23,512 72	11,925 28
“ “	1912		9,051 89	23,608 04	11,303 46
“ “	1913			25,496 59	11,551 20
“ “	1914		774 60	25,730 35	16,299 00
“ “	1915		10,464 53	26,452 76	12,199 42
“ “	1916			26,025 79	17,292 32
“ “				26,503 86	14,333 45
Total.....		14,182,092 96	351,431 74	788,478 60	560,414 40

*Expenditure not given—records relating to same were kept in Ordnance Office at Montreal and were destroyed by fire in 1852.

†Included in total cost of Ottawa River Works, see page 22. Cost of enlargement, \$4,119,039.32.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued*

CHAMBLY CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation		634,711 76			
" " 1868 to 1879 included		2,495 00	8,315 25	122,386 28	170,152 70
" " " since	1880			11,516 22	12,377 74
" " " "	1881			13,950 47	20,705 17
" " " "	1882		31,796 41	16,686 78	16,843 60
" " " "	1883		21,332 36	15,904 38	15,182 24
" " " "	1884		41,640 77	18,448 85	12,003 34
" " " "	1885		21,049 23	18,378 55	13,046 95
" " " "	1886		14,547 27	19,501 28	11,999 77
" " " "	1887		17,911 17	19,053 62	20,071 37
" " " "	1888		65,536 64	20,073 60	11,823 74
" " " "	1889		51,437 87	19,679 22	19,392 18
" " " "	1890		23,221 48	19,655 38	14,399 93
" " " "	1891		43,344 41	19,204 76	11,399 93
" " " "	1892		38,353 99	19,665 22	12,976 48
" " " "	1893		21,127 65	19,310 29	12,451 03
" " " "	1894		8,567 78	19,040 93	11,779 12
" " " "	1895		6,147 63	19,325 49	11,920 74
" " " "	1896		3,694 63	19,349 65	11,801 12
" " " "	1897		12,665 88	18,754 17	13,128 55
" " " "	1898	*150 00	13,184 68	17,992 90	12,466 51
" " " "	1899		15,255 42	18,336 50	11,997 51
" " " "	1900		5,448 88	18,397 58	13,995 00
" " " "	1901		1,195 09	18,529 48	17,572 35
" " " "	1902		19,132 80	18,832 25	17,313 02
" " " "	1903		8,977 43	19,286 10	21,745 65
" " " "	1904		26,701 59	21,544 69	25,656 00
" " " "	1905		33,066 50	26,970 79	19,596 57
" " " "	1906		26,192 72	26,039 53	25,173 48
" " " "	1907		29,953 80	19,916 33	22,058 88
" " " "	1908	157 90	34,264 31	28,375 31	30,627 72
" " " "	1909	13,307 02	35,784 54	28,440 40	24,389 29
" " " "	1910	30,479 41	8,207 00	29,198 76	22,508 53
" " " "	1911	20,000 04	8,717 20	30,548 74	23,950 19
" " " "	1912	15,469 29	26,838 40	34,796 66	29,508 01
" " " "	1913	12,529 07	3,486 97	34,323 21	44,748 39
" " " "	1914	2,697 03	10,314 09	34,155 28	39,712 20
" " " "	1915		13,662 63	35,306 82	42,837 76
" " " "	1916		8,499 68	34,968 33	37,179 03
Total.....		1731,696 52	759,574 15	946,844 80	907,558 79

Less proceeds of sale of piece of land in 1898.

†Chamblly Canal and Richelieu River—

Chamblly Canal, as above.....\$ 731,696 52

Less amount Government expenditure prior to Confederation, deducted at Confederation, *see* Public Accounts, 1868, part I, page 9.....634,711 76

\$ 96,984 76

Returned as an asset in Public Accounts, 1868.....\$ 433,807 83

Agreeing with Public Accounts, 1916.....\$ 530,792 59

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

CORNWALL CANAL.

	Year ending.	Chargeable to Capital.		Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation.....		1,933,152 69	.			
Government expenditure 1868 to 1875 included.....		12,472 04		31,585 51	94,202 59	59,009 74
Cost of original construction.....			1,945,624 73			
Expenditure 1868 to 1879 included.		337,318 87			54,339 77	22,782 57
Expenditure since	1880	109,454 95			14,440 33	9,735 76
"	1881	53,948 14			15,173 60	5,524 10
"	1882	44,587 61			15,052 20	6,634 62
"	1883	21,728 93			18,283 67	8,361 71
"	1884	23,018 13			18,475 48	9,007 73
"	1885	62,034 90		16,298 96	15,988 96	12,368 51
"	1886	57,820 83		6,960 95	15,994 80	11,832 83
"	1887	46,966 43			17,520 54	12,100 29
"	1888	67,945 74			16,938 54	13,942 64
"	1889	173,993 85			17,890 55	58,205 26
"	1890	365,038 01		2,000 00	17,063 49	12,758 18
"	1891	599,001 85		1,459 98	16,077 72	9,830 05
"	1892	398,555 25		2,345 26	15,596 66	9,864 36
"	1893	352,536 13			15,173 01	9,668 14
"	1894	404,990 22			15,344 02	7,733 54
"	1895	450,689 65		21,497 74	15,414 56	13,053 55
"	1896	448,408 31		2,175 00	15,472 26	23,259 56
"	1897	438,487 51			15,540 43	16,438 32
"	1898	133,208 96			15,011 50	15,431 02
"	1899	37,649 00		15,960 80	16,000 00	14,623 90
"	1900	169,889 51		18,547 50	18,798 10	13,998 29
"	1901	62,032 47			17,104 13	13,166 89
"	1902	90,535 18			17,896 58	15,045 95
"	1903	77,833 81			70,129 29	19,205 66
"	1904	113,795 16		1,730 16	45,792 64	20,932 55
"	1905	104,093 45		8,324 83	71,073 68	28,100 67
"	1906	37,879 09		20,063 79	71,246 77	31,893 13
"	1907	5,218 03		4,191 61	52,050 56	24,489 18
"	1908	9,897 90		11,270 83	73,651 90	35,708 68
"	1909	495 00		151,628 65	75,581 54	42,978 72
"	1910	89 54		35,549 06	76,519 49	51,330 83
"	1911			76,719 09	78,583 80	45,362 81
"	1912	8,037 07		60,352 90	83,784 79	59,338 24
"	1913			29,753 37	79,897 25	56,423 40
"	1914			45,537 81	83,018 63	53,039 73
"	1915	3,500 00		23,275 15	83,540 13	39,809 58
"	1916			4,809 26	84,618 78	41,103 58
Cost of enlargement.....			5,300,679 48			
Total.....			*7,246,304 21	502,038 21	1,554,282 74	956,094 27

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

CULBUTE LOCK AND DAM.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure 1873 to 1879 included		223,211 32	39,224 52		
“ “ since.	1880	16,688 20		202 50	259 31
“ “ “	1881	4,721 62		962 85	
“ “ “	1882	29,567 15		790 00	162 33
“ “ “	1883	14,249 60		695 00	288 99
“ “ “	1884	8,151 16		733 50	
“ “ “	1885	19,071 76		730 00	572 75
“ “ “	1886	26,385 27		730 50	2,396 14
“ “ “	1887	7,760 88		730 00	967 33
“ “ “	1888	7,537 99		739 50	730 00
“ “ “	1889	17,112 01		1,050 00	116 53
“ “ “	1890	2,818 35		747 83	
“ “ “	1891	2,183 15	9,122 05	745 25	499 91
“ “ “	1892		1,546 25	736 00	
“ “ “	1893		1,420 65	749 00	13 55
“ “ “	1894		2,540 14	730 00	494 43
“ “ “	1895		1,475 25	436 05	434 28
“ “ “	1896				
“ “ “	1897				
“ “ “	1898				100 00
“ “ “	1899				
“ “ “	1900	3,085 00			
“ “ “	1901	197 00			
“ “ “	1902		1,135 00		
“ “ “	1903				
“ “ “	1904		2,204 50		
“ “ “	1905		2,255 00		
Less unclaimed Cheques.	1913	385 00			
Total.		*382,391 46	60,923 37	11,507 48	7,036 15

*Included in total cost of Ottawa River Works, see page 22. There has been no expenditure on this Lock and dam between 1905 and 1913.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

LAKE ST. FRANCIS.

	Year ending.	Capital.	Renewals. Chargeable to Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1898	3,420 00	
" " ".....	1899	23,110 00	2,495 47
" " ".....	1900	15,431 46	12,288 39
" " ".....	1901	15,000 00	8,060 30
" " ".....	1902	13,945 25	
" " ".....	1903	5,000 00	
" " ".....	1904		2,199 52
" " ".....	1905	†	
Total.....		75,906 71	25,043 68

†Transferred to Department of Marine and Fisheries in 1905.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

LAKE ST. LOUIS.

	Year ending.	Chargeable to Capital.	Chargeable to Revenue.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1895	4,753 14	
" " ".....	1896	49,909 31	
" " ".....	1897	73,300 41	
" " ".....	1898	64,495 83	
" " ".....	1899	57,607 79	
" " ".....	1900	11,765 70	
" " ".....	1901	12,918 31	
" " ".....	1902	6,000 00	
" " ".....	1903	9,508 72	
" " ".....	1904	7,916 90	
" " ".....	1905	†	
Total.....		298,176 11	

†Transferred to Department of Marine and Fisheries in 1905.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

MURRAY CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation	1868		400 00		
since	1868				
"	1869	7,135 63			
"	1870	84,071 68			
"	1871	118,187 43			
"	1872	148,902 66			
"	1873	179,704 52			
"	1874	142,563 66			
"	1875	146,754 37			
"	1876	215,326 46			
"	1877	106,760 35		494 31	
"	1878	61,260 49		5,137 03	173 53
"	1879	5,964 22		5,803 48	3,505 15
"	1880	30,838 79		5,499 62	5,341 34
"	1881			5,667 52	5,295 57
"	1882			5,354 97	5,063 49
"	1883			5,409 10	5,410 33
"	1884			5,526 87	3,966 41
"	1885			5,799 94	4,710 23
"	1886			5,073 70	3,533 68
"	1887			5,613 83	2,777 60
"	1888			5,175 74	1,138 15
"	1889			5,254 51	6,377 19
"	1890	500 00		5,757 00	4,627 70
"	1891	750 00	2,521 13	5,291 43	6,075 94
"	1892	100 00	740 45	5,346 62	4,452 68
"	1893		293 75	5,183 61	2,840 91
"	1894		10,423 00	2,788 14	1,710 55
"	1895		37,334 70	4,244 42	2,953 23
"	1896	126 45	20,250 61	4,720 09	3,374 82
"	1897			4,378 74	2,674 57
"	1898			3,942 94	2,075 26
"	1899			4,213 21	3,344 46
"	1900			5,512 70	2,955 94
"	1901			5,669 45	4,220 02
"	1902			5,443 70	4,480 59
"	1903			5,681 32	4,082 10
Total.....	1903	*1,248,946 71	101,423 11	133,983 99	97,161 44

*Agreeing with Public Accounts Balance Sheet, 1916.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.W. C. LITTLE,
Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

OTTAWA RIVER WORKS.

	\$ cts.	\$ cts.
Ste. Anne's Lock, page 26.....		1,170,215 63
Carillon and Grenville Canal, page 14.....		4,182,092 96
Culbute Canal, page 17.....		382,391 46
Rideau Canal, page 23.....		173,236 90
Total Ottawa River Works (Capital).....		5,907,936 95
Add expenditure on slides and booms prior to Confederation.....	719,247 13	
Add expenditure on slides and booms since Confederation.....	7,243 00	
Add expenditure on Chats Falls Canal prior to Confederation.....	482,950 81	
Add expenditure in 1881, charged to Miscellaneous. See page 229, part ii Public Accounts.....	1,136 84	
Add amount transferred. See page xxxvi, Public Accounts, Balance Sheet, 1881.....	233,555 85	1,444,134 23
		7,352,071 18
Less expenditure prior to Confederation, transferred to Income Account....	320,618 28	
Less expenditure in 1872, on Carillon and Grenville Canal, as shown in Public Accounts Balance Sheet, page xx, under Miscellaneous.....	165,257 28	
		485,875 56
Agreeing, less outstanding cheques, with Balance Sheet, Public Accounts, 1916.....		6,866,195 62

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

RIDEAU CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Imperial Government.....		3,911,701 47			
Government expenditure prior to Confederation.....		153,062 60			
" " 1868 to 1879 included.....		19,559 30	47,875 89	283,919 10	196,738 05
" " " since.....	1880			26,463 88	11,434 05
" " " ".....	1881		133 50	26,024 71	8,627 00
" " " ".....	1882			26,915 29	13,860 28
" " " ".....	1883		70 65	27,322 81	23,524 84
" " " ".....	1884		4,597 50	26,938 95	19,245 02
" " " ".....	1885		2,098 76	26,971 32	18,189 55
" " " ".....	1886		550 00	27,045 95	35,648 04
" " " ".....	1887		20,823 96	29,440 46	18,565 34
" " " ".....	1888		18,889 48	33,458 83	25,478 87
" " " ".....	1889		6,665 22	33,801 77	18,106 36
" " " ".....	1890		21,124 10	34,270 57	18,025 21
" " " ".....	1891		20,967 25	34,641 98	21,537 56
" " " ".....	1892		31,363 23	35,500 82	21,507 16
" " " ".....	1893		24,274 71	35,022 49	18,789 50
" " " ".....	1894		14,485 11	34,943 35	16,939 47
" " " ".....	1895		31,559 48	33,827 08	19,897 32
" " " ".....	1896		21,452 29	34,052 77	30,196 38
" " " ".....	1897		19,079 11	31,461 55	29,535 94
" " " ".....	1898		13,608 39	30,759 05	26,599 93
" " " ".....	1899		700 29	30,751 20	28,199 49
" " " ".....	1900		11,780 41	30,623 27	30,237 09
" " " ".....	1901			31,334 40	33,791 17
" " " ".....	1902		8,894 40	32,193 66	33,959 86
" " " ".....	1903		16,235 13	34,595 31	36,424 23
" " " ".....	1904		13,525 04	39,127 96	38,496 78
" " " ".....	1905	1,565 84	14,513 35	40,838 81	49,790 55
" " " ".....	1906		5,272 90	41,819 77	54,495 63
" " " ".....	1907		14,322 03	30,667 34	44,627 82
" " " ".....	1908		42,903 03	44,875 16	55,090 45
" " " ".....	1909		19,989 52	44,911 60	53,880 51
" " " ".....	1910		9,225 73	48,324 13	95,188 97
" " " ".....	1911		6,188 71	47,165 63	79,352 59
" " " ".....	1912		4,358 40	54,156 89	85,912 96
" " " ".....	1913	41,565 00	21,992 94	56,863 98	91,984 66
" " " ".....	1914	40,000 00	27,094 80	60,471 38	102,092 68
" " " ".....	1915		80,238 38	63,319 23	105,386 73
" " " ".....	1916	615 00	49,979 07	61,068 44	84,808 40
Total.....		4,168,069 21	646,832 76	1,665,890 89	1,696,166 44

Expenditure as above.....4,168,069 21
Less expenditure by Imperial Government.....3,911,701 47

Less expenditure 1905-1913-1914—Ontario (*See* Tay Canal).....255,752 74
83,130 84

Amount included in Ottawa River Works, page 22.....173,236 90

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

SAULT STE. MARIE CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure, 1868 to 1887, included.	1888	8,145 06	949 35		
Government expenditure since.	1889	34,018 95			
" " "	1890	176,568 55			
" " "	1891	325,336 33			
" " "	1892	341,474 31			
" " "	1893	589,801 25			
" " "	1894	1,316,529 29			
" " "	1895	466,151 50		3,432 73	
" " "	1896	189,986 59		16,074 70	2,650 17
" " "	1897	209,561 82		15,381 59	6,671 79
" " "	1898	21,004 56		14,389 92	8,172 09
" " "	1899	63,935 48		13,840 24	6,564 40
" " "	1900	27,157 98		13,901 40	13,219 87
" " "	1901	323,353 93	48 39	13,730 93	10,289 18
" " "	1902	122,505 73		15,920 80	14,839 71
" " "	1903	65,933 43		16,077 22	10,855 70
" " "	1904	32,029 54		14,653 35	9,491 44
" " "	1905	110,181 69		15,681 55	14,776 33
" " "	1906	120,000 00		15,878 11	20,086 15
" " "	1907	95,504 63		12,290 94	11,520 53
" " "	1908	140,433 22		20,345 38	23,206 00
" " "	1909	42,109 63	11,453 28	15,231 79	16,462 29
" " "	1910	46,809 13	147,147 52	18,976 64	20,330 77
" " "	1911	54,797 37	77,066 45	24,951 49	19,955 74
" " "	1912	18,227 10	29,706 21	27,054 50	28,798 51
" " "	1913	45,941 17	13,726 84	27,588 62	26,762 40
" " "	1914	6,874 27		28,537 49	26,426 47
" " "	1915			26,766 76	31,114 80
" " "	1916			27,119 36	26,771 65
Total.....		*4,994,372 51	280,098 04	397,825 51	349,935 99

*Agreeing with Public Accounts, 1916.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

SOULANGES CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation	1892	54,235 76			
Government expenditure since.....	1893	210,336 24			
" " "	1894	723,380 95			
" " "	1895	752,016 53			
" " "	1896	535,939 07			
" " "	1897	363,126 06			
" " "	1898	1,016,401 00			
" " "	1899	1,442,824 22			
" " "	1900	693,806 24		6,711 84	5,000 00
" " "	1901	362,626 36	115 00	25,154 78	5,888 77
" " "	1902	235,021 79		22,672 50	2,267 13
" " "	1903	248,929 10		31,987 06	10,362 23
" " "	1904	113,328 45	15,608 69	25,235 25	39,382 01
" " "	1905	34,202 71	30,406 35	25,432 49	21,174 84
" " "	1906	5,000 22	16,033 79	24,817 37	17,096 33
" " "	1907	13,508 88	3,216 29	19,964 04	15,604 71
" " "	1908	50,634 01	4,245 18	28,988 36	35,678 11
" " "	1909	17,795 79	12,363 78	32,324 20	34,802 37
" " "	1910	153,022 23	2,299 93	32,851 69	46,287 16
" " "	1911	102,699 69	3,999 58	32,283 03	37,532 93
" " "	1912	286,787 88	14,375 47	36,871 50	38,554 54
" " "	1913	180,816 28		38,080 18	27,221 50
" " "	1914	81,235 56	16,117 84	38,904 16	25,383 32
" " "	1915	92,609 72	27,598 82	41,095 09	41,580 87
" " "	1916	33,759 79	11,193 73	40,882 59	33,721 29
Total).....		7,904,044 53	157,574 35	504,256 13	437,547 11

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.W. C. LITTLE,
Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

STE. ANNE'S LOCK AND CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation.....		134,456 51			
Gov. expenditure since 1868 to 1879 included.....		137,051 78	2,479 57	20,238 18	29,091 00
" " 1880.....	1880	3,054 68		2,152 57	1,704 71
" " 1881.....	1881	69,042 76		2,553 02	3,257 92
" " 1882.....	1882	193,158 36		2,611 30	2,343 99
" " 1883.....	1883	172,959 95		2,569 86	3,448 83
" " 1884.....	1884	142,006 25		2,775 32	2,725 49
" " 1885.....	1885	93,679 57		2,618 60	4,042 04
" " 1886.....	1886	120,681 67		2,611 90	5,803 01
" " 1887.....	1887	45,276 08	6,054 10	2,537 41	1,499 96
" " 1888.....	1888	18,910 55	1,372 59	2,505 61	1,380 75
" " 1889.....	1889	24,786 33		2,569 22	1,730 79
" " 1890.....	1890	6,151 14		2,571 04	1,525 51
" " 1891.....	1891		8,173 69	2,505 69	1,503 56
" " 1892.....	1892		25,471 61	2,571 28	1,666 21
" " 1893.....	1893		6,521 88	2,581 08	2,800 03
" " 1894.....	1894		3,497 56	2,640 00	2,799 63
" " 1895.....	1895		3,694 33	2,508 14	3,025 91
" " 1896.....	1896			2,495 54	4,993 89
" " 1897.....	1897			2,357 51	1,688 12
" " 1898.....	1898			1,904 10	1,699 44
" " 1899.....	1899			1,920 12	1,997 96
" " 1900.....	1900			1,840 51	2,679 21
" " 1901.....	1901			1,895 89	3,999 02
" " 1902.....	1902			1,994 52	3,015 97
" " 1903.....	1903		1,984 39	2,072 17	4,684 42
" " 1904.....	1904			2,292 94	2,244 13
" " 1905.....	1905			2,151 01	6,901 44
" " 1906.....	1906			2,259 16	2,294 86
" " 1907.....	1907		2,449 96	1,595 62	901 47
" " 1908.....	1908		2,501 42	2,248 29	1,693 63
" " 1909.....	1909		199 67	2,292 19	4,290 57
" " 1910.....	1910		2,339 76	2,267 60	2,446 28
" " 1911.....	1911		2,880 93	2,315 34	2,628 91
" " 1912.....	1912			2,770 51	2,738 40
" " 1913.....	1913			2,769 63	2,298 26
" " 1914.....	1914		7,379 94	2,896 86	6,799 35
" " 1915.....	1915		7,043 41	4,715 62	4,249 29
" " 1916.....	1916			3,872 12	4,498 66
Total.....		*1,170,215 63	84,044 81	112,047 47	138,282 62

*Included in total cost of Ottawa River Works, see page 22.

Original Construction.....\$ 134,456 51

Enlargement, including New Lock.....1,035,759 12

\$ 1,170,215 63

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE.

Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

ST. LAWRENCE RIVER AND CANALS, SURVEYS, ETC.

	Year ending.	Chargeable to Capital.				Chargeable to Income.
		North Channel.	River Reaches.	Galops Channel.	Total.	
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation.....					18,442 85	98,378 46
Government expenditure 1873 to 1881 included.....					208,965 88	
Government expenditure since.....	1882		6,933 45	22,000 00	28,933 45	
" ".....	1883		3,574 31	41,300 00	44,874 31	
" ".....	1884		15,546 03	74,300 00	89,846 03	
" ".....	1885		13,710 17	101,400 00	115,110 17	
" ".....	1886		16,251 73	99,800 00	116,051 73	
" ".....	1887		20,037 31	54,400 00	74,437 31	
" ".....	1888		16,082 85	40,400 00	56,482 85	
" ".....	1889		1,293 92	17,200 00	18,493 92	
" ".....	1890		18,279 91	5,700 00	23,979 91	
" ".....	1891		35 137 25		35 137 25	
" ".....	1892		59,779 31		59,779 31	
" ".....	1893		52,643 39		52,643 39	
" ".....	1894		13,721 66		13,721 66	
" ".....	1895		1,223 72	181,552 03	182,775 75	
" ".....	1896		7,457 05		7,457 05	
" ".....	1897		12,347 31		12,347 31	
" ".....	1898	171,336 65	7,491 11	32,710 00	211,537 76	
" ".....	1899	461,979 50	9,336 47	42,430 00	513,775 97	
" ".....	1900	225,000 00	72,484 41	50,000 00	347,484 41	
" ".....	1901	184,790 34	19,389 75	91,211 97	295,392 06	
" ".....	1902	125,000 00	29,268 64	24,037 85	178,306 49	
" ".....	1903	126,833 94	16,432 28	25,000 00	168,266 22	
" ".....	1904	68,595 42	9,634 66	6,450 00	84,680 08	
" ".....	1905	94,025 89	25,743 51	49,734 70	169,504 10	
" ".....	1906	83,028 98		26,506 26	109,535 24	
" ".....	1907	61,528 34		13,350 00	74,878 34	
" ".....	1908	40,500 00		12,976 77	53,476 77	
" ".....	1909	42,770 45		25,378 21	68,148 66	
" ".....	1910	34,389 32		2,057 86	36 447, 18	13,694 97
" ".....	1911					16,224 68
Total.....		1,718,778 83	483,830 20	1,039,895 65	3,469,913 41*	128,298 11

*In this total is included an expenditure on capital account of \$227,408.73 on the St. Lawrence River and Canals for the period previous to 1882.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

ST. OURS LOCK.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Govt. expenditure prior to Confederation.....		121,537 65			
" " 1868 to 1879 included.....	1880			19,459 64	13,909 87
" " since.....	1881			1,614 01	705 54
" " ".....	1882			1,741 97	1,299 77
" " ".....	1883		17,230 32	2,002 71	1,902 41
" " ".....	1884		5,279 87	2,361 65	2,188 08
" " ".....	1885		4,700 64	2,315 37	1,494 99
" " ".....	1886			2,271 57	3,652 63
" " ".....	1887			2,311 70	4,143 47
" " ".....	1888			2,175 37	5,864 78
" " ".....	1889			2,216 04	2,801 17
" " ".....	1890		17,964 45	2,421 14	2,002 63
" " ".....	1891		24,571 96	2,138 40	1,935 44
" " ".....	1892		21,686 74	2,001 08	4,460 16
" " ".....	1893		3,585 34	2,168 44	1,944 33
" " ".....	1894			2,136 66	1,994 34
" " ".....	1895			2,216 68	924 55
" " ".....	1896			2,161 63	915 50
" " ".....	1897			2,094 91	1,678 49
" " ".....	1898			2,135 60	707 06
" " ".....	1899			2,049 67	692 04
" " ".....	1900			2,244 12	1,494 93
" " ".....	1901		1,596 88	2,181 43	2,681 10
" " ".....	1902		3,610 06	2,128 25	1,681 44
" " ".....	1903		15,549 27	2,262 39	984 36
" " ".....	1904		9,344 89	2,288 63	1,671 83
" " ".....	1905		7,984 41	2,334 67	1,690 61
" " ".....	1906		14,900 90	2,479 66	1,716 35
" " ".....	1907		7,307 39	2,582 95	3,872 75
" " ".....	1908		4,200 00	2,064 62	1,142 79
" " ".....	1909		3,338 79	2,894 76	2,121 43
" " ".....	1910			2,994 78	3,693 19
" " ".....	1911		1,925 08	4,137 64	1,752 66
" " ".....	1912		1,200 23	3,527 69	2,353 81
" " ".....	1913		4,306 28	3,998 53	2,259 46
" " ".....	1914			3,584 10	2,449 44
" " ".....	1915			3,530 02	2,015 86
" " ".....	1916			4,280 50	3,896 03
" " ".....	1916			4,204 70	4,497 73
Total.....		*127,228 56	174,028 88	114,324 51	97,193 02

*Agrees with Public Accounts, 1916, expenditure of \$121,537.65 prior to Confederation not included.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

ST. PETER'S CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Govt. expenditure prior to Confederation.....		156,523 32			
" " 1868 to 1879 included.....		300,564 93	46,193 57	4,607 66	15,682 80
" " since.....	1880	80,120 54		400 00	
" " ".....	1881	69,434 76		959 58	
" " ".....	1882	484 00		1,920 54	200 63
" " ".....	1883			2,089 19	232 42
" " ".....	1884	2,471 40		2,601 47	367 85
" " ".....	1885	16,820 15		1,929 11	183 11
" " ".....	1886	2,316 85		2,360 67	297 81
" " ".....	1887	1,087 75	750 00	2,777 13	343 23
" " ".....	1888			3,217 77	1,588 40
" " ".....	1889		500 00	3,085 29	353 38
" " ".....	1890			3,110 15	255 34
" " ".....	1891	972 65	510 53	3,255 30	312 02
" " ".....	1892	14,387 00	30,936 82	3,007 70	1,461 24
" " ".....	1893	881 59	9,987 78	2,938 15	1,856 30
" " ".....	1894	437 05	3,852 21	2,935 94	1,986 70
" " ".....	1895	868 44	26,222 46	2,499 81	353 55
" " ".....	1896	1,455 21	16,743 64	2,182 04	260 90
" " ".....	1897			2,728 38	1 20
" " ".....	1898		111 70	2,785 25	453 85
" " ".....	1899			2,819 86	456 61
" " ".....	1900			2,833 24	1,483 30
" " ".....	1901		2,311 26	2,730 44	841 63
" " ".....	1902		10,014 43	2,939 81	274 41
" " ".....	1903			2,836 49	764 11
" " ".....	1904			3,126 94	122 45
" " ".....	1905		3,000 10	2,969 90	1,095 90
" " ".....	1906			3,239 19	253 65
" " ".....	1907			2,468 78	246 87
" " ".....	1908			3,371 13	942 64
" " ".....	1909			3,282 22	532 78
" " ".....	1910			3,449 43	238 14
" " ".....	1911			4,180 96	473 44
" " ".....	1912		5,208 18	4,768 20	361 49
" " ".....	1913		39,143 77	5,144 13	807 78
" " ".....	1914		48,455 79	5,251 36	618 88
" " ".....	1915		83,241 31	4,897 45	240 82
" " ".....	1916		207,807 99	1,460 78	22 51
		648, 755 64			
Less—Refunds in 1897-8.....		208 50			
Total.....		*648,547 14	534,991 54	113,161 44	35,968 17

*Expenditure as above..... \$ 648,547 14

Less expenditure prior to Confederation..... 156,523 32

Agreeing with Public Accounts, 1916... \$ 492,023 82

DEPARTMENT OF RAILWAYS AND CANALS,

• OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

*TAY CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation...	1882		748 65		
" " " ..	1883	4,831 80			
" " " ..	1884	50,878 12			
" " " ..	1885	92,473 97			
" " " ..	1886	65,561 51			
" " " ..	1887	49,617 92			
" " " ..	1888	54,166 57			
" " " ..	1889	89,486 18			
" " " ..	1890	22,226 23		*	*
" " " ..	1891	17,114 78		*	*
" " " ..	1892	29,771 65		*	*
" " " ..	1893			*	*
" " " ..	1894			*	*
" " " ..	1895			*	*
" " " ..	1896			*	*
" " " ..	1897	10,720 50		*	*
" " " ..	1898			*	*
" " " ..	1899			*	*
" " " ..	1900	2,750 00		*	*
Total.....		†489,599 23	748 65	*	*

*Included in Rideau Canal since 1890. No expenditure since 1900.

†Agreeing with Public Accounts, 1916, not including \$83,5130.84 shown in Rideau Canal.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Concluded.*

WELLAND CANAL:

	Year ending,	Capital.	Renewals, Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Imperial Government.....		222,220 00			
Government expenditure prior to Confederation.		7,416,019 83			
1868 to 1879 included		9,445,618 44	125,341 53	583,160 88	771,359 96
since.....	1880	1,252,924 75		63,198 10	76,535 25
" " " " " "	1881	1,242,943 37	6,593 19	56,398 04	69,249 53
" " " " " "	1882	603,402 17	13,664 80	74,641 51	84,374 97
" " " " " "	1883	549,433 29	5,979 03	109,207 21	72,707 62
" " " " " "	1884	432,336 21		113,276 87	90,926 97
" " " " " "	1885	463,505 38	6,150 21	112,670 00	91,534 66
" " " " " "	1886	215,380 75	1,359 00	111,660 22	69,507 48
" " " " " "	1887	1,071,073 87	3,828 67	109,371 69	77,440 80
" " " " " "	1888	429,720 94	10,740 86	110,806 01	86,518 97
" " " " " "	1889	225,910 21	43,803 80	113,587 05	77,547 77
" " " " " "	1890	117,633 22	51,648 28	109,202 02	72,686 19
" " " " " "	1891	36,371 03	19,767 73	107,662 63	82,548 30
" " " " " "	1892	29,541 21	9,008 80	104,673 73	73,771 87
" " " " " "	1893	8,259 94	25,103 13	104,926 73	65,016 84
" " " " " "	1894	1,571 78	13,430 20	102,018 80	53,053 71
" " " " " "	1895	3,809 35	24,245 02	90,438 07	48,270 94
" " " " " "	1896	1,677 67	18,768 99	87,988 11	62,542 64
" " " " " "	1897	2,282 35	22,283 06	88,095 20	41,247 81
" " " " " "	1898		34,803 25	84,806 54	59,571 66
" " " " " "	1899		30,099 84	86,110 88	56,270 60
" " " " " "	1900	18,167 29	37,164 84	84,888 36	59,507 64
" " " " " "	1901	224,536 96	87,777 43	86,889 24	72,055 89
" " " " " "	1902	303,997 81	78,905 37	88,048 95	69,279 90
" " " " " "	1903	315,819 49	94,127 21	90,684 05	72,004 59
" " " " " "	1904	555,751 00	31,140 58	91,115 35	85,717 88
" " " " " "	1905	890,457 82	34,559 42	91,928 96	111,418 62
" " " " " "	1906	715,198 24	28,799 66	107,932 96	78,704 93
" " " " " "	1907	480,305 03	56,036 47	75,031 24	53,247 50
" " " " " "	1908	806,760 46	138,430 19	108,101 56	78,460 40
" " " " " "	1909	255,986 16	129,489 99	115,934 78	88,409 53
" " " " " "	1910	168,247 17	75,233 28	136,783 47	77,733 23
" " " " " "	1911	236,429 80	28,688 57	128,000 33	92,739 05
" " " " " "	1912	159,946 87	28,238 13	149,848 27	105,056 89
" " " " " "	1913	347,711 15	39,674 82	156,598 55	93,231 29
" " " " " "	1914	192,346 90	77,476 08	173,368 13	102,520 46
" " " " " "	1915	104,950 21	73,333 15	193,363 54	97,544 82
" " " " " "	1916	70,747 54	35,925 49	213,443 22	108,166 26
Total.....		29,618,995 66	1,541,620 07	4,615,861 25	3,628,473 42

*Total expenditure as above.....\$29,618,995 66
Less expenditure by Imperial Government.....222,220 00

Agreeing with Public Accounts, 1916.....\$29,396,775 66

Original cost of construction, including first enlargement.....\$ 7,693,824 03
Enlargement, including new Welland Canal.....21,925,171 63

Total expenditure as above.....\$29,618,995 66
Less expenditure chargeable to Welland Ship Canal, See page 33..\$ 187,238 15
Net cost of Welland Canal.....\$29,431,757 51

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

WELLAND SHIP CANAL.

	Year Ending.	Capital.
		\$ cts.
Government expenditure.....	1914	994,257 60
“ “	1915	4,074,200 69
“ “	1916	4,892,105 15
Total.....		9,960,563 44

Expenditure as above.....\$ 9,960,563 44

To which add the preliminary expenditure for surveys, borings, etc., charged to

Welland Canal capital as follows:—

1908-09.....	\$ 19,993 37
1909-10.....	9,979 91
1910-11.....	21,229 35
1911-12.....	23,138 60
1912 13.....	112,896 92

187,238 15

Total cost of Welland Ship Canal.....\$10,147,801 59

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

W. C. LITTLE,

Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Concluded.*

WILLIAMSBURG CANAL.

	Year end- ing.	Capital.				Renewals Chargeable to Income.	Staff.		Repairs.
		Total.		Rapid Plat.					
		Farran's Point.	Gallops.		\$ cts.	\$ cts.	\$ cts.	\$ cts.	
Government expenditure prior to Confederation being amount of original construction.									
Government expenditure since Confederation.									
"	1868				1,320,655 54		5,745 97	6,442 41	
"	1869						5,769 81	5,670 88	
"	1870						5,573 13	6,546 16	
"	1871						6,382 17	5,308 41	
"	1872					1,077 00	5,542 94	3,290 07	
"	1873						6,424 49	7,347 75	
"	1874						6,857 19	7,395 92	
"	1875						7,547 62	4,110 29	
"	1876						7,418 39	11,690 98	
"	1877						7,338 08	10,053 61	
"	1878						7,430 11	4,449 78	
"	1879						7,517 20	3,549 71	
"	1880						7,590 15	3,999 77	
"	1881						7,572 35	5,020 73	
"	1882						7,589 44	7,447 69	
"	1883						7,423 48	7,299 39	
"	1884				13 19		7,757 04	7,349 37	
"	1885	70,764 07	32,473 05		2,473 44		7,696 67	8,198 03	
"	1886	78,014 92	71,820 79		103,237 12		7,671 54	7,847 05	
"	1887	32,862 02	82,990 98		149,835 71		7,635 54	7,904 76	
"	1888	16,628 95	53,499 34		70,128 29		7,646 79	8,190 13	
"	1889	37,661 15	22,206 11		59,867 26		7,485 28	8,704 61	
"	1890	126,417 42	12,690 95		139,078 37		8,954 53	8,191 69	
"	1891	2,853 76	172,779 88	55,036 96	230,670 60		8,678 25	7,987 40	
"	1892		158,511 17	376,545 32	372,193 29	797 83	9,458 33	8,551 32	
"	1893		217,669 28	372,193 29	372,193 29	3,675 00	10,239 09	8,347 97	
"	1894		228,892 70	498,390 23	347,357 23		9,675 09	7,371 37	
"	1895		228,892 70	498,390 23	347,357 23		9,588 51	9,036 00	
"	1896		286,396 96	442,121 12	8,007 04		10,708 55	8,210 71	
"	1897		205,480 55	468,274 33	3,880 76		8,697 54	8,032 84	
"	1898	231,321 44	734,492 07	116,072 55	1,081,886 06		9,960 64	10,000 00	
"	1899	346,956 54	987,186 44	57,869 18	1,392,012 16				

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1900	100,534 64	752,799 27	14,268 74	867,632 65	4,137 04	11,090 06	10,897 79
1901	111,158 39	340,112 78	76,501 57	577,772 74	12,342 32	16,148 06	15,755 09
1902	42,209 89	421,945 81	137,818 22	801,973 92	14,403 28	13,673 26	13,673 26
1903	10,266 92	330,354 92	18,483 34	349,103 18	15,246 91	20,092 79	20,092 79
1904	18,700 00	256,536 30	26,774 27	302,010 37	1,978 85	20,470 17	19,430 05
1905	8,108 99	292,337 29	8,109 98	8,209 63	5,573 69	23,399 45	21,492 46
1906		140,920 65		308,556 26	20,403 00	17,289 42	16,148 06
1907		45,752 52	754 91	46,537 43	18,405 65	13,953 58	8,501 57
1908		100,312 81		100,512 81	16,443 15	19,441 86	18,563 82
1909		11,987 59		11,987 59	3,744 50	22,638 02	23,454 80
1910						20,682 88	29,645 76
1911					2,622 39	21,893 61	21,681 75
1912					3,200 00	25,753 98	26,875 25
1913		1,372 82		1,372 82	88,974 46	32,269 54	28,214 13
1914		913 56		913 56	35,155 43	32,194 46	34,701 99
1915					15,092 33	34,516 82	30,624 65
1916						33,838 38	593,523 49
Total	877,090 57	6,121,213 70	2,158,242 00	* 10,491,098 07	297,559 36	620,819 79	593,523 49

*Original construction.
Cost of enlargement.

\$ 1,320,655 54
9,170,442 53

Total.....\$10,491,098 07

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

W. C. LITTLE,
Accountant.

7 GEORGE V, A. 1917

STATEMENT showing the amounts expended on Construction and Enlargement of Canals, to March 31, 1916.

Canal.	Capital.		
	Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Beauharnois.....	1,636,690 26		1,636,690 26
Carillon and Grenville.....	63,053 64	4,119,039 32	4,182,092 96
Chambly.....	637,056 76	94,639 76	731,696 52
Cornwall.....	1,945,624 73	5,300,679 48	7,246,304 21
Culbute.....	382,391 46		382,391 46
Lachine.....	2,589,532 85	11,519,078 74	14,108,611 59
Lake St. Francis.....		75,906 71	75,906 71
Lake St. Louis.....		298,176 11	298,176 11
Murray.....	1,248,946 71		1,248,946 71
Rideau.....	4,084,323 37	83,745 84	4,168,069 21
Sault Ste. Marie.....	4,994,372 51		4,994,372 51
Soulanges.....	7,904,044 53		7,904,044 53
Ste. Anne's.....	134,456 51	1,035,759 12	1,170,215 63
St. Lawrence River and Canals.....	18,442 85	3,451,470 56	3,469,913 41
St. Ours Lock.....	121,537 65	5,690 91	127,228 56
St. Peter's.....	648,547 14		648,547 14
Tay.....	489,599 23		489,599 23
Trent.....	15,626,295 14		15,626,295 14
Welland.....	7,693,824 03	21,925,171 63	29,618,995 66
Welland Ship Canal.....	9,960,563 44		9,960,563 44
Williamsburg. { Farran's Point.....		877,090 57	10,491,098 07
{ Galops.....		6,121,213 70	
{ Rapide Plat.....		2,158,242 00	
Williamsburg.....	1,320,655 54	13,896 26	
Total.....	61,499,958 35	57,079,800 71	118,579,759 06

SESSIONAL PAPER No. 20

RECAPITULATION.

YEARLY Expenditure on Canals and Revenue received to March 31, 1916.

	Year ending.	Capital.	Income.	Revenue.		Revenue received.
				Staff.	Repairs.	
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation, including Imperial Government expenditure.....		20,593,866 13	98,378 46			
Government expenditure 1868 to 1879 included.....		17,004,842 55	515,196 21	1,830,398 92	17,832,398 61	5,079,068 36
Govt. expenditure since.....	1880	2,123,366 34		195,039 33	147,167 52	341,598 14
"	1881	2,075,891 65	7,246 69	197,573 62	154,653 63	361,558 17
"	1882	1,593,174 09	55,025 03	224,572 61	187,399 02	325,231 54
"	1883	1,763,001 97	62,503 14	269,415 01	178,617 86	361,604 01
"	1884	1,577,295 42	60,993 99	280,657 29	192,219 38	372,561 69
"	1885	1,504,621 47	58,298 29	280,226 20	201,708 47	321,289 47
"	1886	1,333,324 80	31,984 02	282,323 63	198,251 97	328,977 43
"	1887	1,783,698 16	65,983 06	285,172 62	198,888 84	321,784 88
"	1888	1,033,118 34	120,561 59	292,458 76	201,928 93	317,902 04
"	1889	972,918 43	162,015 49	301,040 23	240,261 36	333,188 90
"	1890	1,026,364 24	146,853 54	290,516 63	176,089 00	354,816 92
"	1891	1,318,092 15	165,843 87	294,562 12	204,768 45	349,431 90
"	1892	1,437,149 30	194,129 61	293,115 58	231,089 54	324,475 24
"	1893	2,069,573 30	196,185 84	291,048 97	204,759 39	357,089 87
"	1894	3,027,164 19	110,512 07	294,446 34	179,630 13	387,788 97
"	1895	2,452,273 65	216,057 58	281,477 04	164,033 71	339,890 49
"	1896	2,258,778 97	85,820 49	292,121 05	209,321 60	339,538 72
"	1897	2,348,636 91	101,205 74	287,970 36	178,385 47	384,780 53
"	1898	3,207,249 79	82,400 55	280,872 44	203,478 86	407,652 81
"	1899	3,899,877 31	82,205 60	280,628 57	262,312 36	369,044 38
"	1900	2,659,564 93	120,653 93	292,609 24	227,626 97	322,642 86
"	1901	2,360,569 89	135,500 57	314,095 04	262,876 07	315,425 69
"	1902	2,114,689 88	213,044 91	317,838 61	263,768 27	300,413 68
"	1903	1,823,273 61	275,103 58	390,281 82	294,113 92	230,213 15
"	1904	1,880,787 20	298,678 23	381,016 82	350,278 54	† 79,536 51
"	1905	2,071,593 72	352,855 43	431,499 60	401,742 79	78,009 21
"	1906	1,552,121 21	310,716 70	447,962 92	375,889 60	108,067 76
"	1907	887,838 61	254,423 18	329,629 63	287,231 03	105,003 13
"	1908	1,708,156 37	483,250 11	473,638 95	411,660 53	144,882 13
"	1909	1,868,834 45	699,304 73	475,515 04	433,958 10	199,501 26
"	1910	1,650,706 64	459,835 62	515,585 16	491,793 02	193,384 28
"	1911	2,349,474 49	385,534 55	511,305 94	471,530 32	221,138 49
"	1912	2,554,938 91	384,860 73	585,899 54	555,709 95	264,114 48
"	1913	2,255,448 21	292,960 26	605,248 57	535,135 66	307,567 66
"	1914	2,824,536 79	351,397 24	642,844 68	574,038 68	380,188 06
"	1915	5,490,796 03	405,806 32	675,770 67	562,599 27	427,763 14
"	1916	6,142,148 96	348,174 41	697,532 44	529,565 23	446,722 21
Total.....		*118,579,759 06	8,391,501 36	15,413,911 99	12,717,482 05	16,203,848 18

*This does not include expenditure which has been charged to Miscellaneous Canals Expenditure but only the amount expended on specified canals.

†Canal tolls abolished this year.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

SESSIONAL PAPER No. 20

STATEMENT of the Canals Revenue received during year ending March 31, 1916.

Collection Divisions.	Wharfage, Storage, Harbour Dues, etc.	Hydraulic and other Rents.	Total.
	\$ cts.	\$ cts.	\$ cts.
<i>Welland Canal</i>		540 00	540 00
Port Colborne.....	41 70	8,422 07	8,463 77
Port Colborne Elevator.....	165,925 20		165,925 20
Port Dalhousie.....	462 52	70,310 50	70,773 02
Totals.....	166,429 42	79,272 57	245,701 99
<i>Welland Ship Canal</i>		100 00	100 00
<i>St. Lawrence Canals—</i>			
Coteau Landing (Beauharnois Canal).....		15,040 15	15,040 15
“ “ (Soulanges Canal).....	65 00	3,532 00	3,597 00
Cornwall.....	786 60	4,206 50	4,993 10
Cardinal—Williamsburg Canal.....		1,885 00	1,885 00
Lachine Canal (Montreal).....	11,032 74	132,369 72	143,402 46
“ “ (Lachine).....	526 76		526 76
Totals.....	12,411 10	157,033 37	169,444 47
<i>Chambly Canal</i>		684 00	684 00
Chambly.....	16 00	61 00	77 00
St. John's.....		213 00	213 00
St. Ours Lock.....	5 00		5 00
Totals.....	21 00	958 00	979 00
<i>Ottawa River Canals—</i>			
Carillon & Grenville Canal.....		197 00	197 00
“ “ Grenville.....	8 00	1,551 75	1,559 75
“ “ Carillon.....		630 00	630 00
Stc. Anne's Lock.....	292 24	152 00	444 24
Chats Falls Canal.....		1 00	1 00
Totals.....	300 24	2,531 75	2,831 99
<i>Rideau Canal</i>		1,968 00	1,968 00
Ottawa.....	331 50	3,246 23	3,577 73
Kingston Mills.....		355 00	355 00
Smiths Falls.....	55 00	3,168 70	3,223 70
Totals.....	386 50	8,737 93	9,124 43
<i>St. Peter's Canal</i>		2 00	2 00
<i>Murray Canal</i>		215 00	215 00
<i>Trent Canal</i>	118 00	17,712 33	17,830 33
<i>Sault Ste. Marie Canal</i>		493 00	493 00
Grand totals.....	179,666 26	267,055 95	446,722 21
Net amount deposited to the credit of the Receiver General.....			446,722 21

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

STATEMENT of Hydraulic and other rents, showing rent accrued, paid, and balances yet due March 31, 1916.

Balance due April 1, 1915	Hydraulic and other rents accrued 1915-16.		Lock House. rents.		Totals.		Canals.		Abatement for overcharges.		DEPOSITED TO THE CREDIT OF THE RECEIVER GENERAL.		Balance due Mar. 31, 1916.		Totals.	
\$ cts.	\$	cts.	\$	cts.	\$	cts.			\$	cts.	\$	cts.	\$	cts.	\$	cts.
65,167 90	99,462 48	540 00	165,170 38	Welland.....	22,398 29	78,732 57			63,424 52	165,170 38			63,424 52	165,170 38		
8 711 17	4,192 00	216 00	364 00	Welland Ship.....	850 00	1,669 00			10,384 17	364 00			10,384 17	364 00		
5,153 87	13,148 73		13,119 17	Williamsburg.....		4,206 50			14,096 10	13,119 17			14,096 10	13,119 17		
6,580 84	15,110 15		18,302 60	Cornwall.....		15,040 15			6,650 84	18,302 60			6,650 84	18,302 60		
30,649 95	130,614 83	204 00	21,690 99	Beauharnois.....		132,165 72			28,999 40	21,690 99			28,999 40	21,690 99		
940 84	220 00	684 00	161,468 78	Lachine.....	164 00	274 00			722 84	161,468 78			722 84	161,468 78		
6,395 96	7,146 10	1,968 00	1,844 84	Chambly.....	164 00	1,968 00			330 30	1,844 84			330 30	1,844 84		
191 45	16,610 97	1,300 00	18,102 42	Rideau.....	55 00	1,300 00			6,717 13	18,102 42			6,717 13	18,102 42		
60 00	493 00		553 00	Trent.....	70 45				60 00	553 00			60 00	553 00		
28,165 31	643 00	197 00	29,003 31	Saint Ste. Marie.....	5,226 48	197 00			21,481 75	29,003 31			21,481 75	29,003 31		
	3,136 00	396 00	3,532 00	Carillon and Grenville.....		396 00			3,136 00	3,532 00			3,136 00	3,532 00		
4 00	32 00	120 00	156 00	Soulanges.....		120 00			4 00	156 00			4 00	156 00		
	1 00		1 00	Ste. Anne's Lock.....						1 00				1 00		
	2 00		2 00	Chats Falls.....						2 00				2 00		
3 00	9 00	205 00	217 00	St. Peters.....						205 00				205 00		
				Murray.....												
152,024 29	291,185 26	5,830 00	449,039 55	Totals.....	28,928 22	5,830 00			153,055 38	449,039 55			153,055 38	449,039 55		

OTTAWA, July 25, 1916.

DEPARTMENT OF RAILWAYS AND CANALS,

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

RECAPITULATION—Statement of Expenditure by Canal to March 31, 1916.

	Capital.	Income.	Revenue.		Totals.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Baie Verte.....		44,387 53			44,387 53
Beauharnois.....	1,636,690 26	265,810 84	649,574 89	525,691 23	3,077,767 22
Carillon and Grenville.....	4,182,092 96	351,431 74	788,478 60	560,414 40	5,882,417 70
Chambly.....	731,696 52	759,574 15	946,844 80	907,558 79	3,345,674 26
Cornwall.....	7,246,304 21	592,038 21	1,554,282 74	956,094 27	10,348,719 43
Culbute Lock.....	382,391 46	60,923 37	11,507 48	7,036 15	461,858 46
Lachine.....	14,108,611 59	1,420,902 70	2,662,536 68	2,012,065 75	20,204,116 72
Lake St. Francis.....	75,906 71	25,043 68			100,950 39
Lake St. Louis.....	298,176 11				298,176 11
Murray.....	1,248,946 71	101,423 11	133,983 99	97,161 44	1,581,515 25
Rideau.....	4,168,069 21	646,832 76	1,665,890 89	1,696,166 44	8,176,959 30
Sault Ste. Marie.....	4,994,372 51	280,098 04	397,875 51	349,935 99	6,022,232 05
Soulanges.....	7,904,044 53	157,574 35	504,256 13	437,547 11	9,003,422 12
Ste. Anne's Lock.....	1,170,215 63	84,044 81	112,047 47	138,282 62	1,504,590 53
St. Lawrence Riv. and Canals	3,469,913 41	128,298 11			3,598,211 52
St. Ours Lock.....	127,228 56	174,028 88	114,324 51	97,193 02	512,774 97
St. Peters.....	648,547 14	534,991 54	113,161 44	35,968 17	1,332,668 29
Tay.....	489,599 23	748 65			490,347 88
Trent.....	15,626,295 14	924,169 46	522,515 82	674,369 76	17,747,350 18
Welland.....	29,618,995 66	1,541,620 07	4,615,861 25	3,628,473 42	39,404,950 40
Welland Ship.....	9,960,563 44				9,960,563 44
Williamsburg.....	1,334,551 80				
“ Farran's Point...	877,090 57	297,559 36	620,819 79	593,523 49	12,003,000 71
“ Galops.....	6,121,213 70				
“ Rapide Plat.....	2,158,242 00				
Total.....	118,579,759 06	8,391,501 36	15,413,911 99	12,717,482 05	155,102,654 46
Expenditure Canals General...	34,966 69	618,073 56		2,356,939 00	3,009,979 25
Total expenditure.....	118,614,725 75	9,009,574 92	15,413,911 99	15,074,421 05	158,112,633 71

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

ANNAPOLIS AND DIGBY RAILWAY.

	Year.	Capital.	Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1889	9,847 27	
" " ".....	1890	381,942 75	
" " ".....	1891	196,869 36	
" " ".....	1892	26,129 89	
" " ".....	1893	2,190 62	
" " ".....	1894	1,675 36	
" " ".....	1895	570 55	
" " ".....	1896		
" " ".....	1897	41,457 29	
" " ".....	1898		
" " ".....	1899		
" " ".....	1900		
" " ".....	1901		8,381 82
Total.....		*660,863 09	8,381 82

*Of this amount Parliament voted, under 52 Vic., chap. 8, the sum of \$500,000 as a subsidy to the Western Counties Railway, N.S.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

CANADA EASTERN RAILWAY.

	Year.	Capital.
		\$ cts.
Government expenditure since Confederation.....	1905	800,000 00
" " ".....	1906	
" " ".....	1907	
" " ".....	1908	19,000 00
Total.....		*819,000 00

*Included in total cost of Intercolonial Railway System, page 48.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

CANADIAN PACIFIC RAILWAY.

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

CAPE BRETON RAILWAY.

	Year.	Capital.	Working Expenses.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1887	76,501 89	
" " "	1888	689,450 50	
" " "	1889	1,083,276 60	
" " "	1890	1,170,523 62	
" " "	1891	521,441 62	
" " "	1892	99,936 96	
" " "	1893	59,982 74	
" " "	1894	158,770 61	
" " "	1895	*	
" " "	1896	*	
" " "	1897	405 00	
" " "	1898	389 60	
Total.....		\$3,860,679 14	†

*Included in Intercolonial Railway capital. † Included in Intercolonial Railway working expenses.

‡Included in total cost of Intercolonial Railway system, see page 48.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

CARLETON BRANCH RAILWAY.

	Year.	Capital.	Working Expenses.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1886	85,610 69	
" " "	1887	2,299 62	
" " "	1888	500 17	
Total.....		88,410 48	
*Less amount received from city of St. John, N.B.....		40,000 00	
Net cost.....		48,410 48	

*Victoria, chap. 6, transferred the Carleton Branch Railway to the city of St. John, N.B., for the sum of \$40,000, which sum was paid in March, 1893, to the Receiver General.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

SESSIONAL PAPER No. 20

DRUMMOND COUNTY RAILWAY.

	Year.	Construction.	Working Expenses.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1900	1,450,000 00	.....
" " "	1901	.....	.....
" " "	1902	5,000 00	.....
*Total.....		*1,464,000 00	*

*Included in total cost of Intercolonial Railway system, page 48.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

EASTERN EXTENSION RAILWAY.

	Year.	Capital.	Working Expenses.	Revenue Received.
		\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation.....	1884	1,284,311 97	10,033 77	30,767 66
" " "	1885	2,055 92	78,273 65	73,050 01
" " "	1886	183 79	94,756 06	66,893 11
" " "	1887	.....	94,254 04	64,107 10
" " "	1888	.....	90,954 73	70,552 20
" " "	1889	34,235 73	90,719 04	72,436 65
" " "	1890	.....	79,102 77	84,658 95
" " "	1891	3,255 40	*	†
Total.....		†1,324,042 81	538,094 06	462,465 68

*Included in Intercolonial Railway expenses. †Included in Intercolonial Railway revenue.

‡Included in total cost of Intercolonial Railway system, page 48.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

HUDSON BAY RAILWAY.

	Year.	Capital.
		\$ cts.
Government expenditure since Confederation.....	1909	92,427 83
" " ".....	1910	53,042 63
" " ".....	1911	184,149 81
" " ".....	1912	159,632 00
" " ".....	1913	1,099,063 15
" " ".....	1914	4,498,717 25
" " ".....	1915	4,773,743 99
" " ".....	1916	4,889,131 77
Total.....		15,749,908 43

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY.

	Year.	Construction.	Income.	Working Expenses.	Revenue received.
		\$	cts.	\$	cts.
Expenditure prior to Confederation.....		10,766,725	54		
“ since 1868 to 1879 included.....		25,847,852	40		
“ “ “ 1880.....		2,048,014	60	1,607,956	70
“ “ “ 1881.....		608,732	80	1,780,353	53
“ “ “ 1882.....		585,568	79	2,080,592	37
“ “ “ 1883.....		1,616,632	96	2,383,477	20
“ “ “ 1884.....		1,405,377	52	2,366,719	95
“ “ “ 1885.....		1,195,363	08	2,460,229	87
“ “ “ 1886.....		544,958	17	2,508,473	10
“ “ “ 1887.....		823,070	86	2,854,158	91
“ “ “ 1888.....		742,203	09	3,300,481	94
“ “ “ 1889.....		655,228	13	3,174,785	19
“ “ “ 1890.....		365,246	48	3,500,455	80
“ “ “ 1891.....		79,929	34	3,691,273	65
“ “ “ 1892.....		168,101	77	3,458,891	39
“ “ “ 1893.....		228,984	79	3,062,207	45
“ “ “ 1894.....		166,362	43	2,999,317	07
“ “ “ 1895.....		327,034	51	2,964,940	98
“ “ “ 1896.....		259,105	23	3,029,304	08
“ “ “ 1897.....		145,142	00	2,936,789	71
“ “ “ 1898.....		252,367	20	3,275,830	14
“ “ “ 1899.....		1,081,929	94	3,478,559	30
“ “ “ 1900.....		1,796,348	29	4,444,296	25
“ “ “ 1901.....		3,633,836	57	5,477,295	30
“ “ “ 1902.....		4,621,841	05	5,590,939	57
“ “ “ 1903.....		2,254,266	68	6,214,496	38
“ “ “ 1904.....		1,880,856	60	7,264,263	13
“ “ “ 1905.....		3,937,621	93	8,535,689	91
“ “ “ 1906.....		3,675,170	90	7,599,400	33
“ “ “ 1907.....		1,505,209	26	6,045,597	15
“ “ “ 1908.....		4,363,394	01	9,195,347	64
“ “ “ 1909.....		3,867,232	16	9,364,256	10
“ “ “ 1910.....		1,278,409	45	8,668,620	23
“ “ “ 1911.....		762,869	06	9,613,774	77
“ “ “ 1912.....		1,710,448	56	10,624,889	89
“ “ “ 1913.....		2,391,987	53	12,009,953	31
“ “ “ 1914.....		4,329,694	68	12,893,735	98
“ “ “ 1915.....		6,663,436	65	11,456,356	00
“ “ “ 1916.....		7,635,050	25	12,551,495	84
				1,515,895	57
Total.....	†	106,312,705	26	280,000	00
				218,463,865	09
				211,169,540	78

*Continued page 48.

†Including \$296,872.90 paid to Nova Scotia Railway and European and North American Railway, New Brunswick, and charged to "Consolidated Fund."

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—*Concluded.*

Total cost of construction as shown on page 47.....†\$106,312,705 26
 Less amounts transferred from Capital to Consolidated Fund as follows:—

European and North American Railway from 1868 to 1873.....	\$	88,363 18	
Nova Scotia Railway from 1868 to 1873.....		208,509 72	
			296,872 90
			\$ 106,015,832 36

To which add the following—

Canada Eastern Railway, page 42.....	819,000 00
Cape Breton Railway, page 44.....	3,860,679 14
Drummond County Railway, page 45.....	1,464,000 00
Eastern Extension Railway, page 45.....	1,324,042 81
Montreal and European Short Line Railway, page 49.....	333,942 72
Oxford and New Glasgow, page 51.....	1,949,063 21

Total capital cost of International Railway System.....*\$115,766,560 24

*Agreeing, less outstanding cheques, with Public Accounts, 1916.

†Including \$220.48, amount of an Exchequer Court award in 1907 against the Oxford and New Glasgow Railway.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

	Year.	Capital.	Working Expenses.	Revenue Received.
		\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation.	1915	1,300 00	*111,706 35	65,468 92
" " " " " " " " " " " " " " " " " "	1916	2,637 47	206,651 38	104,623 49
Total.		3,937 47	318,357 73	170,092 41

*Includes \$45,000 for Lease of Railway as per Statute.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

MONTREAL AND EUROPEAN SHORT LINE RAILWAY.

	Year.	Construc- tion.	Working Expenses.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1885	49,587 45	.....
" " "	1886	135,214 38	.....
" " "	1887	24,157 32	.....
" " "	1888	397 35	.....
" " "	1889		.....
" " "	1890		.....
" " "	1891	124,568 23	.....
" " "	1892		.....
" " "	1893		.....
" " "	1894	17 99	.....
Total.....		*333,942 72	.....

*Included in total cost of Intercolonial Railway system, page 48.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

NATIONAL TRANSCONTINENTAL RAILWAY.

	Year.	Construction.	Working Expenses.	Revenue.
		\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation.....	1904	6,249 40		
" " "	1905	778,491 28		
" " "	1906	1,841,269 95		
" " "	1907	5,537,867 50		
" " "	1908	18,910,449 41		
" " "	1909	24,892,422 68		
" " "	1910	19,968,126 86		
" " "	1911	23,488,208 40		
" " "	1912	21,110,683 05		
" " "	1913	13,766,916 39		
" " "	1914	12,670,108 27	94,074 10	44,634 11
" " "	1915	9,831,952 58	239,527 25	153,213 55
" " "	1916	7,078,451 69	4,410,528 75	3,758,387 39
Total.....		* 159,881,197 46	4,744,130 10	3,956,235 05

*Agrees with Public Accounts Balance Sheet, 1916.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

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	Year.	Capital.	Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1909		422,867 12
" " ".....	1910		111,788 02
" " ".....	1911	227,563 40	
" " ".....	1912	603,293 07	
" " ".....	1913	1,512,825 96	
" " ".....	1914	2,604,105 61	
" " ".....	1915	2,816,305 10	
" " ".....	1916	2,746,813 70	
Total.....		10,510,906 84	534,655 14
Less amount received from the Phoenix Bridge Co., 1910.....			100,000 00
Total.....		*10,510,906 84	434,655 14

*Capital Expenditure as above..... \$ 10,510,906 84

In this Expenditure a total of \$91,188.10 has been credited, being received, for the sale of scrap and used material from the collapsed bridge.

Add amounts paid by the Finance Department not included above:—

Amount guaranteed by Act of 1903, Chap. 54.....	\$6,424,781 00	
Amount paid to the Province of Quebec.....	250,000 00	
Amount paid to city of Quebec.....	300,000 00	
Amount paid to Emile Tanguay, as per Supreme Court award.....	485 20	6,975 266 20

	\$ 17,486,173 04
Less amount received from the Phoenix Bridge Co.....	100,000 00

Agrees with Public Accounts Balance Sheet, 1916.....	\$ 17,386,173 04
--	------------------

To which add the expenditure under Income, 1909 and 1910.....	\$ 534,655 14
---	---------------

Add also amount paid for subsidies in 1901, 1902 and 1903.....	374,353 33	909,008 47
--	------------	------------

Total expenditure to date March of 31, 1916.....	\$ 18,295,181 51
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W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

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STATEMENT showing net amount expended on Capital Account on Canadian Government Railways.

Railways.	—	—
	\$	cts.
Intercolonial, pages 47-48.....	106,015,832	36
Cape Breton, page 44.....	3,860,679	14
Oxford and New Glasgow, page 51.....	1,949,063	21
Eastern Extension, page 45.....	1,324,042	81
Drummond County, page 45.....	1,464,000	00
Montreal and European Short Line, page 49.....	333,942	72
Canada Eastern, page 42.....	819,000	00
Total.....	115,766,560	24
Carleton Branch, page 44.....	48,410	48
Prince Edward Island, page 52.....	10,841,372	44
Canadian Pacific, page 43.....	62,789,776	09
Annapolis and Digby, page 42.....	660,683	09
Yukon Territory Works (Stikine-Teslin Ry.), page 54.....	233,323	55
National Transcontinental, page 50.....	159,881,197	46
Governor General's Cars.....	71,538	82
Hudson Bay Railway, page 46.....	15,749,908	43
International Railway of New Brunswick, page 49.....	3,937	47
New Brunswick and Prince Edward Island Railway, page 5.....	224,211	28
Total.....	* 366,320,919	35
<i>Memo re Recapitulation—Railways.</i>		
Total cost as per statement above.....	366,320,919	35
Add amounts transferred from Capital to Consolidated Fund, Intercolonial Railway, <i>see</i> statement, page 48.....	296,872	90
Agreeing with total amount paid on Construction, as per statement, page 56.....	366,617,792	25

*Amounts paid for Quebec Bridge, page 53, and amount of Miscellaneous Expenditure, page 57, not included in above.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

RECAPITULATION GOVERNMENT RAILWAYS.

	Year.	Construction.	Working expenses.	Revenue.
		\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation		13,881,460 65		
“ “ since	1868	483,353 65	359,961 08	420,752 58
“ “ “	1869	282,615 18	387,548 47	455,022 76
“ “ “	1870	1,729,381 49	445,208 75	471,245 09
“ “ “	1871	2,946,930 45	442,993 31	565,713 52
“ “ “	1872	5,620,569 67	595,076 22	622,900 56
“ “ “	1873	5,763,268 81	1,011,892 60	703,458 26
“ “ “	1874	3,925,123 69	1,847,925 24	893,430 17
“ “ “	1875	5,018,427 85	1,381,934 24	886,087 42
“ “ “	1876	4,497,434 75	1,497,128 22	966,922 42
“ “ “	1877	3,209,502 16	1,890,268 80	1,285,110 27
“ “ “	1878	2,643,741 73	2,032,873 05	1,514,846 38
“ “ “	1879	2,507,053 71	2,233,496 34	1,419,955 60
“ “ “	1880	6,109,077 14	1,851,489 26	1,739,137 25
“ “ “	1881	5,577,236 73	2,220,421 39	2,200,486 25
“ “ “	1882	5,175,046 61	2,310,638 54	2,237,583 39
“ “ “	1883	11,707,619 02	2,636,551 70	2,541,205 41
“ “ “	1884	14,013,074 89	2,613,508 87	2,551,937 97
“ “ “	1885	11,224,244 54	2,749,710 53	2,624,243 07
“ “ “	1886	4,443,220 17	2,819,973 50	2,628,336 35
“ “ “	1887	1,846,887 18	3,152,650 40	2,840,747 88
“ “ “	1888	1,765,582 11	3,621,076 62	3,166,253 22
“ “ “	1889	2,709,857 37	3,513,063 67	3,167,542 67
“ “ “	1890	22,392,767 99	3,846,044 42	3,203,874 11
“ “ “	1891	1,184,317 34	3,949,263 73	3,181,888 56
“ “ “	1892	417,425 73	3,748,597 77	3,136,393 51
“ “ “	1893	712,917 44	3,288,629 62	3,262,505 62
“ “ “	1894	585,749 01	3,226,208 13	3,169,019 57
“ “ “	1895	376,814 83	3,197,846 17	3,129,450 37
“ “ “	1896	324,774 72	3,254,442 64	3,140,678 47
“ “ “	1897	204,624 31	3,195,959 58	3,060,074 38
“ “ “	1898	270,990 85	3,507,248 88	3,313,847 10
“ “ “	1899	1,112,348 47	3,696,612 31	3,940,570 11
“ “ “	1900	3,309,130 42	4,665,228 06	4,774,161 87
“ “ “	1901	3,922,989 37	5,739,051 54	5,213,381 24
“ “ “	1902	5,386,611 24	5,861,099 54	5,918,990 43
“ “ “	1903	3,083,680 86	6,474,134 20	6,584,598 77
“ “ “	1904	2,619,059 86	7,599,958 57	6,627,255 51
“ “ “	1905	6,125,481 79	8,906,154 35	7,050,892 11
“ “ “	1906	6,102,565 74	7,893,653 49	7,950,552 97
“ “ “	1907	7,174,370 17	7,328,745 65	6,509,186 49
“ “ “	1908	23,684,005 25	9,595,295 43	9,534,569 04
“ “ “	1909	29,414,227 34	9,764,586 51	8,894,410 42
“ “ “	1910	21,505,975 91	9,095,903 96	9,647,963 71
“ “ “	1911	24,532,466 18	10,037,878 77	10,249,394 38
“ “ “	1912	23,108,805 52	11,074,852 80	11,034,165 83
“ “ “	1913	17,375,968 10	12,499,925 65	12,442,203 46
“ “ “	1914	21,628,095 15	13,559,225 45	13,394,317 37
“ “ “	1915	21,865,663 92	12,474,453 85	12,149,357 32
“ “ “	1916	21,155,255 19	19,407,380 22	18,427,908 65
Total		*366,657,792 25	237,703,772 09	224,854,539 86

Total amount paid on construction..... \$ 366,657,792 25

Less amount received from the city of St. John, N. B., as purchase price of the Carleton Branch Railway..... 40,000 00

Cost of construction..... \$366,617,792 25

*Amount paid for Quebec Bridge and amount of Capital Expenditure, page 57, not included.

†Agreeing with amount expended on Capital Account on Railways, etc., see page 55.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

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MISCELLANEOUS EXPENDITURE ON RAILWAYS.

STATEMENT showing the Expenditure from Confederation to March 31, 1916, yearly.

	Year end- ing.	Capital.	Income.	Revenue.	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Gov't expenditure prior to Confederation.					
" " since " 1868 to 1876	1876				
" " " " 1877	1877				
" " " " 1878 to 1883	1883			43,639 97	43,639 97
" " " " 1884	1884		62,256 58		62,256 58
" " " " 1885	1885		11,003 38		11,003 38
" " " " 1886	1886		10,383 59		10,383 59
" " " " 1887	1887		23,545 34		23,545 34
" " " " 1888	1888		22,898 90		22,898 90
" " " " 1889	1889		16,552 64		16,552 64
" " " " 1890	1890		50,909 74		50,909 74
" " " " 1891	1891		16,314 41		16,314 41
" " " " 1892	1892		19,062 51		19,062 51
" " " " 1893	1893		4,313 73		4,313 73
" " " " 1894	1894		4,855 11		4,855 11
" " " " 1895	1895		13,221 27		13,221 27
" " " " 1896	1896		6,562 20		6,562 20
" " " " 1897	1897		5,118 99		5,118 99
" " " " 1898	1898		8,327 96	1,400 00	9,727 96
" " " " 1899	1899		67,005 86		67,005 86
" " " " 1900	1900		33,496 99		33,496 99
" " " " 1901	1901		28,658 78		28,658 78
" " " " 1902	1902		21,752 58		21,752 58
" " " " 1903	1903		15,570 43		15,570 43
" " " " 1904	1904		85,353 17		85,353 17
" " " " 1905	1905		97,507 00		97,507 00
" " " " 1906	1906		99,018 80		99,018 80
" " " " 1907	1907		92,115 62		92,115 62
" " " " 1908	1908		178,266 39		178,266 39
" " " " 1909	1909		181,615 90		181,615 90
" " " " 1910	1910		200,329 52		200,329 52
" " " " 1911	1911		218,178 85	1,000 00	219,178 85
" " " " 1912	1912		257,670 45	3,950 00	261,620 45
" " " " 1913	1913		360,812 49	4,500 00	365,312 49
" " " " 1914	1914	18,000 00	384,018 59	11,300 00	413,318 59
" " " " 1915	1915		376,602 43	23,000 00	399,602 43
" " " " 1916	1916		316,479 82	1,400 00	317,879 82
Total.....		18,000 00	3,289,780 02	90,189 97	3,397,969 99

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

STATEMENT showing Expenditure common to both Railways and Canals from Confederation to March 31, 1916.

	Year end- ing.	Capital.	Income.	Revenue.	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Gov't expenditure prior to Confederation.....					
" " " " 1868 to 1878	1878		232,839 35	69,113 66	301,952 01
" " " " 1879 to 1892	1892				
" " " " 1893	1893		28,640 93		28,640 93
" " " " 1894	1894		15,746 31		15,746 31
" " " " 1895	1895		19,304 87		19,304 87
" " " " 1896	1896		25,194 21		25,194 21
" " " " 1897	1897		25,142 90	597 39	25,740 29
" " " " 1898	1898		28,042 10		28,042 10
" " " " 1899	1899		22,085 19		22,085 10
" " " " 1900	1900		22,802 18		22,802 18
" " " " 1901	1901		33,986 68		33,986 68
" " " " 1902	1902		34,138 50		34,138 50
" " " " 1903	1903		35,398 00		35,398 00
" " " " 1904	1904		36,262 32		36,262 32
" " " " 1905	1905		38,660 52		38,660 52
" " " " 1906	1906		37,484 64		37,484 64
" " " " 1907	1907		34,183 75		34,183 75
" " " " 1908	1908		45,115 99		45,115 99
" " " " 1909	1909		20,912 04		20,912 04
" " " " 1910	1910		4,706 79		4,706 79
" " " " 1911	1911		2,369 52		2,369 52
" " " " 1912	1912		2,922 06		2,922 06
" " " " 1913	1913		9,338 17		9,338 17
" " " " 1914	1914		5,671 08		5,671 08
" " " " 1915	1915		2,324 14		2,324 14
" " " " 1916	1916		322,305 88		322,305 88
Total.....			1,085,578 12	69,711 05	1,155,289 17

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, July 25, 1916.

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STATEMENT showing the Total Expenditure and Revenue of the Department of Railways and Canals prior to and since Confederation to March 31, 1916.

	\$	cts.	\$	cts.
TOTAL EXPENDITURE.....			\$852,370,850	78
Expenditure on Railways.....	\$607,999,534	33		
" Quebec Bridge.....	10,945,561	98		
" Railway Subsidies.....	74,157,831	59		
" Canals.....	158,112,633	71		
" Miscellaneous.....	1,155,289	17		
Total expenditure.....			852,370,850	78
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital Account.....	495,761,424	84		
Revenue Account.....	268,352,006	15		
Income Account.....	14,099,588	20		
Consolidated Fund—Railway Subsidies, page 69.....	74,157,831	59		
			852,370,850	78
CLASSIFICATION OF EXPENDITURE IN DETAIL—				
Railways—				
Capital—See pages 55 and 57.....	366,635,792	25		
Income—See pages 47, 48 and 57.....	3,569,780	02		
Revenue—See pages 56 and 57.....	237,793,962	06		
Quebec Bridge—			607,999,534	33
Capital—See page 53.....	10,510,906	84		
Income—See page 53.....	434,655	14	10,945,561	98
Railway Subsidies—See pages 60 to 71.....	74,157,831	59	74,157,831	59
Canals—				
Capital—See pages 37, 38 and 41.....	118,614,725	75		
Income—See pages 37, 38 and 41.....	9,009,574	92		
Revenue—See pages 37, 38 and 41.....	30,488,333	04	158,112,633	71
Miscellaneous Expenditure—				
Income—See page 58.....	1,085,578	12		
Revenue—See page 58.....	69,711	05	1,155,289	17
Total expenditure.....			852,370,850	78
CLASSIFICATION OF EXPENDITURE INTO CAPITAL AND CONSOLIDATED FUND—				
Railways—				
Capital—Including Quebec Bridge.....	377,146,699	09		
Consolidated Fund (Income and Revenue) Railway Subsidies, etc.....	315,956,228	81	693,102,927	90
Canals—				
Capital.....	118,614,725	75		
Consolidated Fund (Income and Revenue).....	39,497,907	96	158,112,633	71
General Expenditure—				
Consolidated Fund (Income and Revenue).....	1,155,289	17	1,155,289	17
Total expenditure.....			852,370,850	78
TOTAL REVENUE RECEIVED from July 1, 1867 to March 31, 1916—				
Railways—See page 56.....	224,854,539	86		
Canals—See page 37.....	16,203,848	18		
Total Revenue.....			\$241,058,388	04

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

SUBSIDY STATEMENTS

- I.---Statement showing the Railway Subsidies paid during the year ending March 31, 1916.
- II.---Statement of Railway Subsidies paid from July 1, 1873, to March 31, 1916.

STATEMENT showing the Railway Subsidies paid during the year ending
March 31, 1916.

Name of Railway.	Amount.
INTERNATIONAL RAILWAY OF NEW BRUNSWICK (formerly the Restigouche and Western Railway).	
From Campbellton towards Grand Falls.	\$ 791 93
QUEBEC CENTRAL RAILWAY COMPANY—	
From a point (31·34 miles from St. George) in the Parish of St. Sabine, County of Bellechasse, to a point in the Township of Dionne, County of L'Islet..	43,161 60
CANADIAN NORTHERN ONTARIO RAILWAY COMPANY—	
From Ottawa, Ontario to Port Arthur, Ontario.	495,604 83
KETTLE VALLEY RAILWAY COMPANY—	
From a point on the line between Merritt and Penticton wharf, at or near Penticton to Midway, B.C.	173,168 54
From a point on the line between Merritt and Penticton wharf, about 25 miles south of Merritt, to a point on the Fraser river near Hope station.	37,522 95
Bridge over Fraser river near Hope, B.C.	250,000 00
	<u>460,691 49</u>
CANADIAN PACIFIC RAILWAY COMPANY—	
Between Gimli and the south end of the Icelandic river bridge.	80,032 00
ALBERTA CENTRAL RAILWAY COMPANY—	
Red Deer to Rocky Mountain House.	75,000 00
CANADIAN NORTHERN PACIFIC RAILWAY COMPANY—	
Yellowhead Pass to Vancouver and the mouth of the Fraser river.	244,889 57
	<u>\$1,400,171 42</u>

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, July 25, 1916.

7 GEORGE V, A. 1917

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1909.
Authority.	Amount.			
	\$ cts.			\$ cts.
46 Vic., chap. 25	156,800 00	1	International Railway, Quebec.....	156,800 00
53 " 2				
45 " 14	384,000 00			
46 " 25	80,000 00			
48-49 " 59	96,000 00			
49 " 10	186,295 00			
50-1 " 24	28,800 00	2	Quebec and Lake St. John Railway, Quebec.....	1,233,943 50
51 " 3	96,000 00			
52 " 3	64,000 00			
53 " 2	40,000 00			
54-5 " 8	5,250 00			
57-8 " 4	44,800 00			
46 " 24	89,600 00			
49 " 10	70,000 00			
50-1 " 24	12,800 00	3	Kingston, Napanee and Western Railway, formerly Napanee, Tamworth and Quebec Ry., Ontario...	208,732 80
52 " 3	32,000 00			
55-6 " 5	64,000 00			
47 " 8	272,000 00			
51 " 3	41,000 00	4	Pontiac Pacific Junction Railway, Quebec.....	193,578 00
53 " 2	24,000 00			
46 " 25	115,200 00			
47 " 8	76,800 00	5	Caraquette Railway, N.B.....	224,000 00
50-1 " 24	32,000 00			
47 " 8	32,000 00			
49 " 10	57,600 00			
52 " 3	22,400 00	6	Canadian Northern Quebec Ry. Co., formerly Great Northern Ry., Quebec.....	870,108 31
53 " 2	48,000 00			
56 " 2	47,000 00			
57-8 " 4	70,400 00			
7-8 Ed. VII 63	*			
47 Vic. 8	48,000 00	7	Kingston and Pembroke Railway, Ontario.....	48,000 00
45 " 14				
46 " 26	660,000 00	8	Northern and Pacific Junction Railway, Ontario....	1,320,000 00
53 " 2	660,000 00			
47 " 8	128,000 00			
48-9 " 59	19,200 00			
49 " 10	32,000 00	9	Canada Eastern Ry., formerly Northern and West- ern Ry., N.B., including also Chatham Branch Ry.	374,839 84
48-9 " 59	24,439 84			
51 " 3	140,800 00			
57-8 " 4	35,200 00			
62-3 " 7	*			
47 " 8				
51 " 3	60,342 00	10	Quebec Central Railway, Quebec.....	403,980 69
7-8 Ed. VII 63				
53 Vic. 2	288,000 00			
48-9 " 59	72,000 00			
53 " 2	40,000 00	11	Montreal and Sorel Railway, Quebec.....	93,757 57
48-9 " 59	30,000 00			
50-1 " 24	64,000 00	12	Montreal and Champlain Junction Railway, Quebec	103,600 00
51 " 3	9,600 00			
46 " 25	38,400 00	13	Elgin, Petitediac and Havelock Railway, N.B.....	82,652 82
51 " 3	44,252 82			
47 " 8	22,400 00	14	St. Louis and Richibucto Railway, N.B.....	22,400 00
48-9 " 59	96,000 00			
49 " 10	38,400 00	15	Canada Atlantic Railway, Ontario.....	282,355 20
50-1 " 24	180,000 00			
47 " 6	750,000 00	16	Esquimalt and Nanaimo Railway, B.C.....	750,000 00
47 " 8	96,000 00	17	Erie and Huron Railway, Ontario.....	96,000 00
46 " 25	320,000 00			
47 " 8	300,000 00	18	Baie des Chaleurs Railway, Quebec.....	620,000 00
52 " 3				
Carried forward.....				7,084,748 73

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have been entered into and payments made up to March 31, 1916.

Payments.							Total, March 31, 1916.	
1909-1910.	1910-1911.	1911-1912.	1912-1913.	1913-1914.	1914-1915.	1915-1916.	\$ cts.	
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
							156,800 00	1
		27,520 00					1,261,463 50	2
							208,732 80	3
							193,578 00	4
							224,000 00	5
164,172 29	144,608 51	86,468 03					1,265,357 14	6
							48,000 00	7
							1,320,000 00	8
							374,839 84	9
	129,320 61		8,576 00			43,161 60	585,038 90	10
							93,757 57	11
							103,600 00	12
							82,652 82	13
							22,400 00	14
							282,355 20	15
			356,440 00		405,120 00		1,520,560 00	16
							96,000 00	17
							620,000 00	18
164,172 29	273,929 12	113,988 03	374,016 00		405,120 00	43,161 60	8,459,135 77	

7 GEORGE V, A. 1917

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1909.
Authority.	Amount.			\$ cts.
	\$ cts.			\$ cts.
			Brought forward.....	7,084,748 73
48-9 Vic., c. 59	118,400 00	1	New Brunswick and Prince Edward Island Ry....	113,440 00
50-1 " 24	217,600 00	2	Laurentian Railway, formerly St. Lawrence, Lower Laurentian and Saguenay Railway, Quebec.....	217,600 00
49 " 10	11,200 00	3	L'Assomption Railway, Quebec.....	11,200 00
49 " 10	32,000 00	4	Great Eastern Railway, Quebec.....	40,345 00
50-1 " 24	96,000 00			
56 " 2	64,000 00			
53 " 2	37,500 00			
47 " 8	160,000 00	5	Irondale, Bancroft and Ottawa Railway, Ontario..	144,000 00
52 " 3				
49 " 10	96,000 00	6	Buctouche and Moncton Railway, N.B.....	101,600 00
50-1 " 24	6,400 00			
47 " 8	51,200 00	7	Albert Southern Railway, N.B.....	50,460 00
52 " 3				
50-1 " 24	65,200 00	8	Lake Temiscamingue Colonisation Ry., Quebec....	310,335 95
57-8 " 4	274,940 00			
49 " 10	38,400 00	9	Joggins Railway, N.S.....	37,500 00
50-1 " 24	4,000 00			
45 " 14	240,000 00	10	Temiscouata Railway, N.B., and Quebec.....	645,950 00
48-9 " 58	258,000 00			
51 " 3	100,000 00	11	Leamington and St. Clair Railway, Ontario.....	51,200 00
53 " 2	51,200 00			
48-9 " 50	44,800 00	12	Toronto, Grey and Bruce Railway, Ontario.....	14,656 00
50-1 " 24	6,400 00			
59 " 10	16,000 00	13	Dominion Lime Co., Quebec.....	15,360 00
50-1 " 24	22,400 00			
49 " 10	256,000 00	14	West Ontario Pacific Railway and Ontario and Quebec Railway.....	256,000 00
53 " 2				
50-1 " 24	96,000 00	15	Drummond County Railway, Quebec.....	423,936 00
52 " 3	14,400 00			
53 " 2	76,800 00	16	Brockville, Westport and Sault Ste. Marie Rail- way, Ontario.....	140,800 00
57-8 " 4	96,000 00			
48-9 " 59	128,000 00	17	Montreal and Lac Maskinonge Railway, Quebec....	41,280 00
53 " 2				
54-5 " 8	64,000 00	18	South Norfolk Railway, Ontario.....	54,400 00
57-8 " 4				
49 " 10	32,000 00	19	Guelph Junction Railway, Ontario.....	46,000 00
53 " 2	10,200 00			
50-1 " 24	54,400 00	20	Belleville and North Hastings Railway, Ontario...	21,888 00
50-1 " 24	51,200 00			
48-9 " 54	22,400 00	21	Hereford Railway, Quebec.....	155,200 00
49 " 19	108,800 00			
49 " 10	48,000 00	22	Lake Erie and Detroit River Railway, Ontario...	475,851 00
52 " 0	118,400 00			
50-1 " 23	224,000 00	23	Beauharnois Junction Railway, Quebec.....	62,400 00
55-6 " 4	62,400 00			
62-3 " 5	138,400 00	24	St. Catharines and Niagara Central Ry., Ontario.	38,400 00
50-1 " 24				
55-6 " 5	108,000 00	25	Fredericton and St. Mary's Ry. Bridge Co., N.B..	30,000 00
57-8 " 4	108,800 00			
52 " 3	30,000 00	26	Harvey Branch Railway Co., N.B.....	5,553 57
50-1 " 24	9,600 00			
55-6 " 5	240,000 00	27	Nova Scotia Central Railway Co., N.S.....	235,200 00
61 " 1				
50-1 " 24	44,800 00	28	Cumberland Railway and Coal Co., N.S.....	39,850 00
52 " 3	19,200 00			
52 " 3	54,400 00	29	Pontiac and Renfrew Railway, Ontario.....	13,600 00
63-4 " 8				
			Thousand Islands Railway, Ontario.....	29,840 00
			Carried forward.....	10,908,594 25

SESSIONAL PAPER No. 20

have been entered into and payments made up to March 31, 1916—Continued.

Payments.							Total March 31, 1916.	Number.
1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
164,172 29	273,929 12	113,988 03	374,016 00	.....	405,120 00	43,161 60	8,459,135 77	
.....	113,440 00	1
.....	217,600 00	2
.....	11,200 00	3
.....	40,345 00	4
.....	144,000 00	5
.....	101,600 00	5
.....	50,460 00	7
.....	310,335 95	8
.....	37,500 00	9
.....	645,950 00	10
.....	51,200 00	11
.....	14,656 00	12
.....	15,360 00	13
.....	256,000 00	14
.....	423,936 00	15
.....	140,800 00	16
.....	41,280 00	17
.....	54,400 00	18
.....	46,000 00	19
.....	21,888 00	20
.....	155,200 00	21
.....	475,851 00	22
.....	62,400 00	23
.....	38,400 00	24
.....	30,000 00	25
.....	5,553 57	26
.....	235,200 00	27
.....	39,850 00	28
.....	13,600 00	29
.....	29,840 00	30
164,172 29	273,929 12	113,988 03	374,016 00	.....	405,120 00	43,161 60	12,282,981 29	

7 GEORGE V, A. 1917

STATEMENT showing subsidies voted for Railways as to which contracts

SUBSIDIES VOTED.		Number.	Railways.	July 1, 1883, to March 31, 1909.
Authority.	Amount. . .			
	\$ cts.			\$ cts.
			Brought forward.....	10-908-594 25
52 Vic., chap. 3	96-000 00	1	Quebec, Montmorency and Charlevoix Ry. Co., Qu.	96-000 00
56 " 3	375,000 00	2	St. Clair Frontier Tunnel Co., Ontario.....	375,000 00
52 " 3	57,600 00	3	Brantford, Waterloo and Lake Erie, Ry., Ontario..	57-600 00
50-1 " 24		4	Port Arthur, Duluth and Western Ry., Ontario....	271-200 00
57-8 " 4	287,200 00			
51 " 3				
53 " 2				
50-1 " 24				
53 " 2	192-000 00	5	Montreal and Ottawa Railway, Ontario.....	192-000 00
54-5 " 8				
57-8 " 8				
50-1 " 24	44,800 00	6	Cornwallis Valley Railway, N.S.....	44,800 00
52 " 3				
52 " 3	320-000 00			
57-8 " 6	64,000 00	7	Ottawa, Northern and Western Ry., Quebec, formerly Ottawa and Gatineau Valley Railway	414,931 20
60-1 " 4				
47 " 8				
51 " 3				
52 " 3	83-612 00			
53 " 2	142,400 00	8	Central Railway, N.B.....	226-012 54
57-8 " 4	48,000 00			
61 " 1				
62-3 " 1				
53 " 2	361,270 00	9	Montreal and Western Railway, Quebec.....	361,270 00
52 " 3	128,000 00	10	Parry Sound and Colonization Railway, Ontario...	152,800 00
57-8 " 4	64,000 00			
52 " 3	163,200 00	11	Shuswap and Okanagan Railway, B.C.....	163,200 00
54-5 " 8	89,600 00			
53 " 2	35,200 00	12	Tobique Valley Railway, N.B.....	134,016 00
55-6 " 5	9,600 00			
53 " 2	112,000 00	13	Columbia and Kootenay, B.C.....	88,800 00
53 " 2	35,200 00	14	Waterloo Junction Railway, Ontario.....	32,800 00
53 " 2	99,200 00	15	Orford Mountain Railway Co., Quebec.....	192,942 50
53 " 2	57,600 00			
55-6 " 5	25,024 00	16	St. Lawrence and Adirondack Railway, Quebec.	149,481 60
55-6 " 5	*40,000 00	17	New Glasgow Iron, Coal and Railway Co., N.S..	39,840 00
56 " 2	102,400 00			
57-8 " 4	102,400 00	18	United Counties Railway Co., Quebec.....	188,816 00
55-6 " 5	*21,600 00	19	Philipsburg Junction Ry. Quarry Co., Quebec....	23,712 00
55-6 " 5	*430,400 00	20	Ottawa, Arnprior and Parry Sound Ry., Ontario...	779,712 00
56 " 2	67,200 00			
57-8 " 4	38,400 00	21	Montfort Colonization Railway, Quebec.....	167,440 00
60-1 " 4	66,000 00			
55-6 " 5	48,000 00			
57-8 " 4	48,000 00	22	Lotbinière and Megantic Railway, Quebec.....	96,000 00
56 " 2	48,000 00	23	Grand Trunk, Georgian Bay & Lake Erie Ry., Ont.	39,744 00
55-6 " 5	80,000 00	24	Can. Pac. Ry. B.C., Revelstoke to Arrow Lake...	80,000 00
57-58 " c	121,600 00	25	Nakusp and Slocan Railway, B.C.....	117,760 00
55-6 " 5	89,600 00	26	Dominion Coal Company, N.S.....	87,808 00
56 " 2	22,400 00	27	Oshawa Railway and Navigation Co, Ontario....	22,400 00
57-8 " 4	*51,200 00	28	Tilsonburg, Lake Erie and Pacific Ry., Ontario...	117,431 48
56 " 2	*11,200 00	29	St. Stephen and Milltown Ry., N.B.....	14,848 00
57-58 " 4	*38,400 00	30	Guelph Shore Railway Company, N.B.....	53,699 20
57-8 " 4	9,000 00	31	Cap de la Magdeleine Railway, Quebec.....	7,424 00
56 " 2	32,000 00	32	Ontario, Belmont and Northern Ry. Co., Ont.....	30,720 00
" "	"	33	Coast line of N.S., now Halifax and Yarmouth Ry.	160,000 00
" "	"	34	Ottawa and New York Railway Company, Ont...	262,384 00
			Carried forward.....	16,151,186 77

SESSIONAL PAPER No. 20

have been entered into and payments made up to March 31, 1916.—*Continued.*

Payments.							Total March 31, 1916.	Number.
1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
164,172 29	273,929 12	113,988 03	374,016 00	.....	405,120 00	43,161 60	12,282,981 29	
.....	96,000 00	1
.....	375,000 00	2
.....	57,600 00	3
.....	271,200 00	4
.....	
.....	192,000 00	5
.....	44,800 00	6
.....	414,931 20	7
.....	226,012 54	8
.....	361,270 00	9
.....	152,800 00	10
.....	163,200 00	11
.....	134,016 00	12
.....	88,800 00	13
.....	32,800 00	14
.....	9,984 00	.....	.....	.....	202,926 50	15
.....	149,481 60	16
.....	39,840 00	17
.....	188,816 00	18
.....	23,712 00	19
.....	779,712 00	20
.....	167,440 00	21
.....	96,000 00	22
.....	39,744 00	23
.....	80,000 00	24
.....	117,760 00	25
.....	87,808 00	26
.....	22,400 00	27
.....	32,640 00	.....	.....	150,071 48	28
.....	14,848 00	29
.....	53,699 20	30
.....	7,424 00	31
.....	30,720 00	32
.....	160,000 00	33
.....	262,384 00	34
164,172 29	273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	43,161 60	17,568,197 81	

7 GEORGE V, A. 1917

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1909.	
Authority.	Amount.			\$	cts.
	\$ cts.				
			Brought forward.....	16,151,186	77
60-61 Vic., c. 5	3,630,000 00	1	Canadian Pacific Ry. Co., B.C. (Crow's Nest Pass)	3,404,720	00
60-61 " 4	500,000 00	2	Grand Trunk Ry. Co., Victoria Jubilee Bridge Que.	500,000	00
63 3	*	3	International Ry. of New Brunswick, formerly Res-		
7-8 Ed. VII. 63	*	4	tigouche and Western Ry. Co.....	368,257	67
" *	*	5	East Richelieu Railway Co. Quebec.....	69,952	00
7-8 Ed. VII. 63	*	6	South Shore Ry. (Quebec, Montreal and Southern).	246,655	36
" *	*	7	Pembroke Southern Railway, Ontario.....	64,000	00
" *	*	8	Massawippi Valley Railway Co., Quebec.....	5,376	00
" *	*	9	Inverness and Richmond Ry. Co., N.S., now Inver-		
" *	*	10	ness Ry. and Coal Co.....	368,545	97
6-7 Ed. VII. 40	*	11	Canadian Northern Ry. Co., Ontario, Manitoba		
63-3 Vic., c. 7	1,000,000 00	12	and N.W.T.....	1,909,132	00
63-4 " 8	*	13	Canadian Pacific Railway Co. (Pipestone Branch).	160,000	00
60-1 Vic., c. 4	212,500 00	14	Central Ontario Railway Co., Ontario.....	179,466	00
63-4 " 2	*	15	Midland Railway Co., N.S.....	399,060	40
1 Ed. VII., c. 7	*	16	Quebec Bridge Co., Quebec.....	374,353	33
62-3 Vic., c. 7	*	17	St. Mary River Railway Co., N.W.T.....	148,094	00
62-3 " 7	*	18	Pontiac Pacific & Ottawa & Gatineau Ry., Co.		
63-4 " 8	*	19	(Interprovincial Bridge over Ottawa River)....	212,500	00
1 Ed. VII., c. 7	*	20	Atlantic and Lake Superior Ry., Quebec.....	144,969	02
62-3 Vic., c. 7	*	21	Montreal and Province Line Railway, Quebec.....	58,560	00
62-3 " 7	*	22	York and Carleton Railway, N.B.....	32,896	00
63-4 " 8	*	23			
1 Ed. VII., c. 7	*	24	Algoma Central and Hudson Bay Ry., Ontario....	924,976	00
" *	*	25	Cape Breton Extension Railway, N.S.....	182,400	00
" *	*	26	Can. Pac. Ry. Co. (Kootenay & Arrowhead Branch	153,866	00
" *	*	27	" (Selkirk Branch).....	83,200	00
" *	*	28	" (Dymont Branch).....	22,336	00
" *	*	29	" (Waskada Branch).....	64,000	00
9-10 Ed. VII. 51	*	30	Algoma Eastern Rt. Co., formerly Manitoulin and		
" *	*	31	North Shore Ry. Co., Ontario.....	32,000	00
" *	*	32	Bay of Quinte Railway Ont.....	141,722	45
" *	*	33	Bruce Mines and Algoma Railway, Ont.....	53,920	00
" *	*	34	Maganetawan River Railway Co., Ont.....	3,552	00
" *	*	35	Canadian Northern Quebec Ry., formerly Chateau-		
" *	*	36	guay and Northern Ry., Quebec.....	391,819	75
Ed. VII., c. 57	*	37	Canadian Pacific Ry. Co. (Pheasant Hill Branch).	435,200	00
4 " 34	*	38	Halifax and Southwestern Railway Co., N.S.....	1,238,450	93
6 " 43	*	39	Northern Colonization Railway Co., Quebec.....	202,080	00
6 " 43	*	40	New Brunswick Coal and Railway Co., N.B.....	48,000	00
6 " 43	*	41	Schomberg and Aurora Railway Co., Ont.....	46,144	00
3 " 57	*	42	Lindsay, Bobcaygeon Pontypool Ry. Co., Ont.....	185,173	06
6 " 43	*	43	Middleton and Victoria Beach Ry. Co., N.S.....	125,760	00
9-10 " 51	*	44	Nicola, Kamloops and Similkameen Coal & Ry. Co.	300,800	00
6 " 43	*	45	Canadian Pacific Ry. (Staynerville Branch).....	13,024	00
6 " 43	*	46	Klondike Mines Railway.....	197,184	00
6-7 " 40	*	47	Kettle Valley Ry. Co., B.C.....	97,771	52
6-7 " 40	*	48	Colchester Coal and Ry. Co., N.S.....	12,800	00
7-8 " 63	*	49	Minudie Coal Co., N.S.....	18,544	00
		50	Atlantic, Quebec and Western Ry. Co., Quebec....	156,672	00
		51	Napierville Junction Ry. Co., Quebec.....	173,440	00
		52	Edmonton, Yukon and Pac. Ry. Co., Alberta.....	91,200	00
		53	Canadian Northern Ontario Ry. Co.....	1,872,960	00
			Carried forward.....	\$32,066,720	23

†Of this amount, \$16,164.43 were in connection with subsidy to Montreal and Sorel Railway.

SESSIONAL PAPER No. 20

have been entered into and payments made up to March 31, 1916.—*Continued.*

Payments.							Total March 31 1916.	Number.
1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
104,172 29	273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	43,161 60	17,568,197 81	
							3,404,720 00	1
							500,000 00	2
187,494 40	169,536 00					791 93	726,080 00	3
							69,952 00	4
184,320 00	60,000 00	23,835 70					1514,811 06	5
							64,000 00	6
							5,376 00	7
							368,545 97	8
							1,909,132 00	9
							160,000 00	10
	24,601 32	826 17		969 30			205,862 79	11
							399,060 40	12
							374,353 33	13
							148,094 00	14
							212,500 00	15
					18,449 17		163,418 19	16
							58,560 00	17
							32,896	18
		133,584 00	394,859 14	456,304 00	138,980 56		2,048,704 00	19
14,400 00							196,800 00	20
							153,866 00	21
							83,200 00	22
							22,336 00	23
							64,000 00	24
	68,638 72		254,089 40	179,897 01	13,022 87		547,648 00	25
							141,722 45	26
							53,920 00	27
							3,552 00	28
							391,819 75	29
							435,200 00	30
							1,238,450 93	31
153,120 00							355,200 00	32
							48,000 00	33
							46,144 00	34
							185,173 06	35
							125,760 00	36
							300,800 00	37
							13,024 00	38
							197,184 00	39
		148,800 00	107,138 40	699,389 60	369,497 28	460,691 49	1,883,288 29	40
							12,800 00	41
							18,544 00	42
208,896 00	31,334 40	91,279 60	414,618 00				902,800 00	43
							173,440 00	44
							91,200 00	45
250,982 40	116,889 60			8,948,809 47	2,343,335 80	495,604 83	11,028,582 10	46
1,163,385 09	744,929 16	512,313,50	1,554,705,24	10,318,009 38	3,288,405 68	1,000,249 85	50,648,718 13	

aAmount actually paid after deductions amounting to \$1,521.82 made in 1905-06 (being for refunds, etc., from the total of \$146,490.84, previously reported, for which cheques had issued.

7 GEORGE V, A. 1917

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883 to Mar. 31, 1909.	
Authority.	Amount.			\$	cts.
	\$ cts.			\$	cts.
			Brought forward.....	32,066,720	23
7-8 Ed. VII., c. 63	*	1	Maritime Coal and Railway Co.....	3,200	00
7-8 " 63	*	2	St. Marys and Western Ontario Ry. Co.....	67,344	00
7-8 " 63	*	3	North Shore Ry. Co., formerly Beersville Coal and Ry. Co.....	27,616	00
7-8 " 63	*	4	St. Maurice Valley Ry. Co.—Three Rivers to Grand'Mere.....	112,640	00
7-8 " 63	*	5	Grand Trunk Pacific Ry. Co.....	367,249	00
6 " 43	*	6	Can. Pacific Ry. Co., Teulon to Icelandic River..		
7-8 " 63	*	7	Canadian Pacific Ry. Co., Moosejaw northwesterly		
7-8 " 63	*	8	Canadian and Gulf Terminal Ry. Co.....		
6-7 " 40	*	9	Liverpool and Milltown Ry. 5 miles.....		
7-8 " 63	*	10	Thessalon and Northern Ry. Co.....		
7-8 " 34	*	11	Vancouver and Lulu Island Ry. Co.....		
7-8 " 51	*	12	Quebec and Saguenay Ry. Co.....		
7-8 " 63	*	13	Canadian Pacific Ry., Winnipeg to Gimli.....		
9-10 " 51	*	14	Ha Ha Bay Railway Co., Que.....		
2 Geo. V. 47	*	15	Northern New Brunswick and Seaboard Ry. Co., N.B.....		
3-4 " 46	*	16	Can. Northern Pacific Ry. Co., B.C.....		
2 " 9	*	17	Fredericton and Grand Lake Ry. Co., N.B.....		
2 " 48	*	18	Southampton Railway Co., N.B.....		
2 " 48	*	19	St. John and Quebec Railway Co., N.B.....		
2 " 7	*	20	Canadian Northern Alberta Ry. Co., Alta.....		
3-4 " 10	*	21	Central Ry. of Canada, Que.....		
2 " 48	*	22	Temiskaming and Northern Ont. Ry. Co.....		
3-4 " 53	*	23	Lake Erie and Northern Ry. Co., Ont.....		
2 " 48	*	24	Can. Pac. Ry., Bridge at Outlook.....		
2 " 48	*	25	Can. Pac. Ry., Bridge at Edmonton.....		
3-4 " 46	*	26	Alberta Central Railway, Alta.....		
2 " 48	*	27	Kootenay Central Ry. Co., B.C.....		
3-4 " 46	*	28	Can. Pac. Ry., Gimli to Icelandic River Bridge..		
			Total.....	32,644,769	23
37 Vic., ch. 14	186,500 annually	29	Atlantic and Northwestern Railway.....	2,732,000	00
46 " 2	for 20 years...	30	Central Canada Railway.....	1,525,250	00
47 " 8	1,525,250 00	31	Canadian Pacific extension.....	1,500,000	00
48-9 " 58	1,500,000 00		Total.....	39,402,019	23

*Acts of Parliament, 60-61 Victoria, Cap. 4; 62-63 Victoria, Cap. 7; 63-64 Victoria, Cap. 8; 1 Edward VII., Cap. 7; and others subsequent to date, authorize \$3,200 per mile subsidy if the cost does not average more than \$15,000 per mile, if over that amount, a further sum of fifty per cent on so much of the average cost of the mileage subsidized as in excess of \$15,000 per mile, such subsidy not exceeding in the whole the sum of \$6,400 per mile.

SESSIONAL PAPER No. 20

have been entered into and payments made up to March 31, 1916.—*Concluded.*

Payments.							Total March 31, 1916.	Number.
1909-10.	1910-11	1911-12.	1912-13.	1913-14	1914-15.	1915-16.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
1,163,385 09	744,929 16	512,313 50	1,554,705 24	10,318,009 38	3,288,405 68	1,000,249 85	50,648,718 13	
		365 00					3,200 00	1
							67,709 00	2
							27,616 00	3
	60,480 00						173,120 00	4
550,551 96	302,679 04						1,220,480 00	5
30,800 00			81,200 00				112,000 00	6
303,360 00		78,432 00		103,682 27			485,474 27	7
	144,803 84	65,249 75					210,053 59	8
	32,000 00						32,000 00	9
		6,112 00					6,112 00	10
		61,760 00					61,760 00	11
		104,992 00	27,641 60	116,167 68			248,801 28	12
		30,176 00	4,346 43				34,522 43	13
			148,148 20	66,919 28	16,158 72		231,226 20	14
			86,528 00	21,632 00			108,160 00	15
			2,705,378 00	2,520,281 00	178,077 80	244,889 57	5,648,626 37	16
			104,996 04		111,579 96		216,576 00	17
			48,442 88	32,837 12			81,280 00	18
			174,120 96	364,617 42	59,581 32		598,319 70	19
				2,832,024 00	262,080 00		3,094,104 00	20
				30,145 02			30,145 02	21
				2,134,080 00			2,134,080 00	22
				135,129 60			135,129 60	23
				115,000 00			115,000 00	24
				126,000 00			126,000 00	25
				119,712 00	209,768 00	75,000 00	404,480 00	26
					1,065,856 00		1,065,856 00	27
						80,032 00	80,032 00	28
2,048,097 05	1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	1,400,171 42	67,400,581 59	
							3,732,000 00	29
							1,525,200 00	30
							1,500,000 00	31
2,048,097 05	1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	1,400,171 42	74,157,831 59	

†This amount does not include the subsidy of \$25,000,000 to the Canadian Pacific Railway, nor the amount \$660,683.08 expended on the Annapolis and Digby Railway, both of which are included in Capital Account, nor the annual payment of \$219,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of \$2,394,000 up to 1905, granted by Vic. 47., cap. 8 (1884) and the annual payment of \$107,730, being interest at the rate of 4½ per cent since and including 1905 on the said sum of \$2,394,000 for the line between Ottawa and Quebec which sum was transferred to the Public Debt as a liability and is dealt with by the Finance Department. See Public Accounts, 1898-1916 and page 79, 1898.

PART II.

STATEMENTS

OF THE

DEPARTMENTAL SOLICITOR

FOR THE YEAR 1915-1916.

I. Money Subsidy Agreements for the year ended March 31, 1916.

II. Documents, placed on record in the Office of the Departmental Solicitor during the fiscal year ended March 31, 1916, affecting the Canals of the Dominion and the Hudson Bay Railway, viz.:—

- (1) Contracts entered into during the year.
- (2) Leases of Water-power and Properties granted.
- (3) Leases to the Crown.
- (4) Property conveyed to the Crown and lands conveyed by the Crown.
- (5) Damages released.

SUBSIDY AGREEMENTS for construction of Bridges entered into during the Fiscal Year ended March 31, 1916.

RIDEAU CANAL.

Number of Contract.	Date of Signature.	Grantee.	Work Subsidized.	Order in Council.	Amount of Subsidy.
21557	1915. Aug. 10.	The Corporation of the City of Ottawa.	Grant of \$40,000 in aid of the construction of highway lift bridge crossing Canal on a line with Pretoria ave.	July 27, 1915	40,000 00

WELLAND CANAL.

					\$ cts.
21777	1916. Mar. 14.	The Corporation of the City of St. Catharines.	Grant of \$50,000 towards the cost of construction of a high level bridge across Old Canal just below present St. Paul St. bridge, St. Catharines, Ontario.	Mar. 1, 1916	50,000 00

E. E. FAIRWEATHER,
Departmental Solicitor.

7 GEORGE V, A. 1917

CONTRACTS entered into during the fiscal year ended March 31, 1916.

BEAUHARNOIS CANAL.

Number of Contract.	Date of Signature.	Contractor.	Description.
21426	19 5. June 1.	Carlton Construction Co., Ltd...	Construction of works for protecting Government dam at Valleyfield, Que.

CORNWALL CANAL.

21445	1915. June 9.	The Hamilton Bridge Works Co., Ltd.	Delivery of superstructure of a steel highway bridge at old lock No. 17.
21446	" 9.	Canada Cement Company, Ltd.	Delivery of 4,000 barrels of Portland cement at Cornwall, Ont.

LACHINE CANAL.

21446	1915. June 9.	Canada Cement Company, Ltd.	Delivery of 14,725 barrels of Portland cement.
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RIDEAU CANAL.

21446	1915. June 9.	Canada Cement Company, Ltd.	Delivery of 2,000 barrels of Portland cement.
21365	May 10.	Canadian Western Lumber Co., Limited.	Delivery of British Columbia or "Douglas" fir dimension timber.

RAPID PLAT CANAL.

21446	1915. June 9.	Canada Cement Company, Ltd.	Delivery of 200 barrels of Portland cement at Morrisburg, Ont.
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SOULANGES CANAL.

21549	1915. Sept. 15.	Phileas Dore.....	Supply of rip-rap stone for facing southern slope of guide pier and breakwater at upper entrance of canal.
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ST. PETER'S CANAL.

21446	1915. June 9.	Canada Cement Company, Ltd.	Delivery of 16,000 barrels of Portland cement.
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TRENT CANAL.

21335	1915. April 26.	The Hamilton Bridge Works Co., Ltd.	Erection of a highway swing bridge over canal at Lindsay, Ont.
21427	June 1	The Hamilton Bridge Works Co., Ltd.	Erection of superstructure of single track railway swing bridge on line of C.N.R. over canal, Severn division, at Washago, Ont.
21428	June 1.	The Hamilton Bridge Works Co., Ltd.	Erection of two steel highway swing bridges, one at Port Severn Lock swing bridge and the other at Muskoka Road swing bridge, Ontario.
21429	June 1.	Dominion Bridge Company, Ltd.	Supply and erection of 12 wagon valves and 12 cylindrical valves for the locks of the Severn division and Bobcaygeon lock.

SESSIONAL PAPER No. 20

CONTRACTS entered into during the fiscal year ended March 31, 1916—*Concluded.*TRENT CANAL—*Concluded.*

Number of Contract.	Date of Signature.	Contractor.	Description.
21430	1915. May 21.	William Hamilton Co., Ltd....	Supply, etc., 22 operating machines, 22 sets anchorage fittings, 22 pivots and 10 gains for various locks and emergency steel stop-log bridges of canal.
21446	June 9.	Canada Cement Company, Ltd.	Delivery of 50,600 barrels of Portland cement.
21611	Oct. 27.	William Hamilton Co., Ltd....	Delivery and erection of sluice pipes, valves, operating machinery, and electrical equipment for the Swift Rapids dam, Severn division.
21734	1916. Feb. 19.	Northern Electric Co., Ltd....	Supply and erection of electrical equipment for highway swing span bridge over canal at Dundas street, Trenton, Ont.

WELLAND CANAL.

21316	1915. April 15.	Canada Cement Company, Ltd.	Delivery of 2,500,000 barrels of Portland cement.
21318	April 14.	Canadian Dredging Co., Ltd....	Removal of slide in canal about one-half mile north of Air Line railway bridge crossing.
21431	June 1.	The W. E. Dillon Company, Ltd.	Manufacture and delivery of 400 sections of metal cut-off and splice material.
21446	" 9.	Canada Cement Company, Ltd.	Delivery of 2,275 barrels of Portland cement.
21612	Oct. 4.	The Niagara, St. Catharines and Toronto Railway Co.	To construct and maintain a swing bridge at Thorold to carry company's railway over relocated 19th district line of G.T.R.—to be maintained by the company.
21696	1916. Jan. 19.	The Grand Trunk Railway Co.	For the diversion of the company's 17th and 19th district main tracks at Merriton and Thorold, respectively.
21791	Mar. 25.	Standard Clay Products, Ltd..	Delivery of vitrified clay conduit, square duct, with necessary dowel pins.

• HUDSON BAY RAILWAY.

21353	1915. May 5.	Dominion Bridge Company, Ltd.	Manufacture and erection of steel superstructure of single track railway bridge at Port Nelson.
21444	June 9.	G. R. Marshall.	Supply and delivery of lumber and timber for Port Nelson terminals.
21447	" 9.	The Long-Bell Lumber Company	Delivery of 1,245,180 ft. b.m. of long leaf yellow pine timber.
21474	" 2.	Canadian Western Lumber Co., Ltd.	Delivery of 1,245,180 ft. b.m. of B.C. 6F timber.
21513	Aug. 7.	Dartmouth Coal and Supply Co., Ltd.	Supply and delivery of 700 tons anthracite stove coal.
21514	" 7.	Hugh D. MacKenzie Co., Ltd.	40 tons of Nova Scotia blacksmith's coal.
21551	Sept. 4.	The St. Lawrence Engine Co., Ltd.	Delivery of one 7" x 9" heavy duty four-cylinder Buffalo engine 40-45 h.p.
21571	" 28.	E. F. Williams.	Supply and delivery of one gasoline motor tug, complete, less engine which is to be supplied by the department but installed by contractor.
21572	" 28.	Dominion Coal Company, Ltd.	3,500 gross tons bituminous coal, bagged, 2,000 gross tons bituminous coal not bagged, bunker coal required.
21778	1916. Mar. 15.	The Steel Company of Canada.	Delivery of 400 tons of railway spikes.
21779	" 15.	Canadian Tube and Iron Co., Ltd.	Delivery of 90 tons of bolts.
21789	" 25.	Canadian Ramapo Iron Works, Ltd.	Delivery of 12 sets of No. 10 switches and frogs complete for 80-lb. rails (6 right-hand turnouts and 6 left-hand turnouts).

E. E. FAIRWEATHER,

Departmental Solicitor.

7 GEORGE V, A. 1917

PROPERTY Leased by the Department of Railways and
BEAUHARNOIS

No. of Lease.	Date of Signature.	Lessee.	Lands or Rights Demised.
	1915.		
21616	Aug. 10	The Montreal Cotton Co.	Renewal of lease 11925, dated Jan. 8, 1895 of certain lots and surplus water to the extent of 10,000 cu. ft. per second on Grande Isle de Beauharnois, par. of Ste. Cecile.
	1916.		
21717	Jan. 28	Alexander Barrette and Joseph Barrette.	Part of lot 339 of cad. of par. of Ste. Cecile de Valleyfield, Que.
21766	Mar. 9	The Montreal Cotton Co.	Privilege to erect and maintain a temporary warehouse on government dam at Valleyfield.

CHAMBLY

	1916.		
21749	Feb. 28	Corporation of the Town of Chambly Basin.	Privilege to lay and maintain two 12" cast-iron sewer pipes under and across canal at Chambly Basin.

GALOPS

	1915.		
21334	April 26	E. V. Dodge.....	Land, government wharf near west end of village of Cardinal, Co. Grenville, Ont.
21600	Oct. 7	John Johnston.....	Land on south side of canal west of Iroquois, Ont.

LACHINE

	1915.		
21323	April 15	The Canadian Pacific Ry. Co.	Privilege to erect a railway swing bridge at point near Highlands Que., and operate double track line of railway thereon, etc.
21347	May 1	The St. Paul Land and Hydraulic Company.	Renewing lease No. 2022, dated Aug. 4, 1860, to Wm. Parkyn, of certain water lots and surplus water at lock No. 4.
21495	July 10	The Wm. Rutherford & Sons Co., Ltd.	Land on north bank of canal below Atwater avenue, in city of Montreal.
21509	" 30	Charles I. Root & John J. C. Ward.	Land on northwest side of canal near Brewster's bridge, in town of Ste. Cunegonde, par. of Montreal, Co. of Hochelaga, Que.
a21562	Sept. 16	William Montroy.....	Southerly portion of St. Gabriel shed No. 2, 336 feet long by 40 feet wide.
	1916.		
b21751	Feb. 29	The Montreal Warehouseing Co.	Cadastral lot No. 1479 in St. Ann's ward west of basin No. 4, Montreal, Que.

MURRAY

	1915.		
21544	Sept. 9	Brighton Municipal Telephone System, and Municipality of the Township of Brighton.	Privilege to maintain two telephone lines across canal and canal lands, west of Brighton Road bridge.

SESSIONAL PAPER No. 20

Canals during the fiscal year ended March 31, 1916.

CANAL.

Area.	Term.	Commence- ment of term.	Terms of Payment.		
			Annual Rental.	Due each year.	First instal- ment due.
			\$ cts.		
	During pleasure.....	July 1, 1915	600 00	July 1....	July 1, 1915
0.52 arp.....	"	Jan. 1, 1916	2 00	Jan. 1....	Jan. 1, 1916
	"	May 1, 1906	25 00	May 1....	May 1, 1906

CANAL.

	During pleasure.....	Jan. 1, 1916	1 00	Jan. 1....	Jan. 1, 1916
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CANAL.

198.86 sq. ft.....	During pleasure.....	July 1, 1914	2 00	July 1....	July 1, 1914
6.54 ac.....	"	Oct. 1, 1915	8 00	Oct. 1....	Oct. 1, 1915

CANAL.

	21 yrs., renewable.....	Dec. 1, 1914	10 00	Dec. 1....	Dec. 1, 1914
	"	May 1, 1915	£400 5s. semi-an- nually.	Jan. 1....	July 1, 1915
1,950 sq. ft.....	During pleasure.....	June 1, 1915	78 00	July 1....	July 1, 1915
6,600 sq. ft.....	"	April 1, 1915	264 00	June 1....	June 1, 1915
	"	April 1, 1915	264 00	April 1....	April 1, 1915
	"	Oct. 1, 1915	1,095 20	Oct. 1....	Oct. 1, 1915
	"	Jan. 1, 1916	1,615 86	Oct. 1....	Oct. 1, 1915
	"	Jan. 1, 1916	1,615 86	Jan. 1....	Jan. 1, 1916

CANAL.

	During pleasure.....	Sept. 1, 1915	2 00	Sept. 1....	Sept. 1, 1915
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7 GEORGE V, A. 1917

PROPERTY Leased by the Department of Railways and Canals

RIDEAU

No. of Lease.	Date of Signature.	Lessee.	Lands or Rights Demised.
	1915.		
21451	June 12	R. B. Whyte.....	Part of lot No. 3 in con. "A," tp. of Montague, Co. of Lanark, Ont
21557	Aug. 10	Corporation, City of Ottawa, The Ottawa Improvement Commission assenting.	Two parcels of land at point of crossing, and right and privilege to cross canal with a highway lift bridge on a line with Pretoria ave.
c21693	Dec. 28	The Percival Plow & Stove Co., Watchorn & Co., Ltd., The Estate of late P. Kyle; John Mills; Alex. Mills and A. L. Mills.	Surplus water from dam to be constructed by the lessor at Merrickville.
	1916.		
21748	Feb. 28	Corporation of the City of Ottawa.	Privilege to lay and maintain two 18" water mains across canal lands and under canal at Fourth ave., and Wilton crescent.
21790	Mar. 25	The Grand Trunk Ry. Co. of Canada.	Parts lots "F" and "G" in con. "C", tp. of Nepean, Co. of Carleton, Ontario, and privilege to maintain railway bridges.

STE. ANNE'S

	1915.		
d21599	Oct. 7	Azarias Lebeau.....	Land in village of Ste. Anne de Bellevue, Que., being part of cad. lots Nos. 112 and 113 of par. of Ste. Anne.

TRENT

	1915.		
21367	May 12	The Bell Telephone Co. of Canada.	Privilege to erect and maintain an overhead telephone line across canal and right of way at Muskoka Road bridge, lot No. 8, con. 14, tp. of Orillia, Ont.
21432	" 29	Henry R. Danicl.....	Part of lot No. 31 in 8th con., tp. of Fenelon, Co. of Victoria, Ontario.
21373	" 12	William Giroux.....	Lot No. 18 in 13th con., tp. of Tay, Co. of Simcoe, Ontario.
e21433	" 29	Crushed Stone, Limited	Part of lot No. 49 in 9th con., tp. of Eldon, and privilege to take and use stone piled thereon.
21434	" 29	Frank McGirr.....	Part of W. ½ of lot 27, 2nd con., tp. of Eldon.
21450	June 9	J. Crawford.....	Parts lots 1 and 2 in 12th con., tp. of Douro, Co. of Peterborough, Ontario.
21454	" 12	Frankford Electric Light Co., Ltd.	Privilege to erect and maintain an electric transmission line across canal and certain canal lands on Bridge st., Frankford, Ontario.
f21475	" 30	Archibald Tedford.....	Part lot No. 3 in 11th con. of tp. of Douro, Co. of Peterborough, Ontario.
21542	Sept. 9	The Northumberland Paper and Electric Co.	Right, etc., to lay, etc., 2,400-volt, 3-phase electric transmission line over canal on lot 8, con. 5, tp. of Scymour, Co. of Northumberland, Ontario.
21559	" 8	Matchedash Telephone System.	Right, etc., to erect and maintain telephone line across Severn river, Trent canal and Trent canal right of way on lot 18, con. 12, tp. of Tay, etc., and island "X," tp. of Baxter, Dist. of Muskoka, Ontario.
21615	Oct. 27	Edward Burke.....	Parts of lot No. 2 in 5th con., tp. of Camden, Co. of Victoria, Ontario.
21678	Dec. 23	Richard Bauseh.....	House, on right of way of section No. 4, Ontario-Rice Lake division, Campbellford.

SESSIONAL PAPER No. 20

during the fiscal year ended March 31, 1916--*Continued.*

CANAL.

Area.	Term.	Commence- ment of term.	Terms of Payment.		
			Annual Rental.	Due each year.	First instal- ment due.
			\$ cts.		
0.1 ac.....	During pleasure.....	May 1, 1915	5 00	May 1...	May 1, 1915
0.465 ac.....	21 yrs., renewable....	Aug. 10, 1915	1 00	Aug. 10...	Aug. 10, 1915
0.273 ac.....	10 yrs., renewable for 2 further 10 year terms	From and after completion of dam.	3 00 per h.p.		
	During pleasure.....	Mar. 1, 1916	1 00	Mar. 1....	Mar. 1, 1916
1.183 ac.....	".....	Oct. 15, 1915	50 00	Oct. 15....	Oct. 15, 1915

LOCK.

15.10 sq. ft.....	During pleasure.....	Sept. 1, 1915	1 00	Sept. 1....	Sept. 1, 1915
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CANAL.

	During pleasure.....	May 1, 1915	1 00	May 1....	May 1, 1915
0.63 ac.....	".....	Mar. 1, 1915	6 00	Mar. 1....	Mar. 1, 1915
10.8 ac.....	".....	May 1, 1915	10 00	May 1....	May 1, 1915
1.61 ac.....	".....	1, 1915	50 00	1....	1, 1915
	".....	" 1, 1915	7 00	" 1....	" 1, 1915
10.64 ac.....	".....	" 1, 1915	10 00	" 1....	" 1, 1915
	".....	" 1, 1915	1 00	" 1....	" 1, 1915
18.54 ac.....	".....	Mar. 1, 1915	18 54	Mar. 1....	Mar. 1, 1915
	".....	July 31, 1915	2 00	July 31....	July 31, 1915
	".....	" 31, 1915	4 00	" 31....	" 31, 1915
22 ac.....	".....	Oct. 1, 1915	19 84	Oct. 1....	Oct. 1, 1915
	9 months.	Nov. 1, 1915	8 00	Nov. 1....	Nov. 1, 1915

7 GEORGE V, A. 1917

PROPERTY Leased by the Department of Railways and Canals

TRENT

No. of Lease.	Date of Signature.	Lessee.	Lands or Rights Demised.
	1916.		
21780	Mar. 15	William H. Grylls.....	Part of lot No. 49, North Portage road, tp. of Eldon, Co. of Victoria, Ontario.
21781	" 15	Archie L. McEachern...	Part lot No. 49, North Portage road, tp. of Eldon, Co. of Victoria, Ontario, and privileges.
21784	" 15	Donald Grant.....	Part of lot No. 6 in 11th con., tp. of Thorah, Co. of Ontario, Ont.

WELLAND

	1915.		
21298	April 7	The Niagara, Welland & Lake Erie Ry. Co., Corporation of Town of Welland consenting.	Right, etc., to lay, etc., electric street railway upon and over swing bridge connecting east and West Main streets, Welland, Ontario.
21337	" 26	The Exolon Company..	Privilege to lay and maintain a 3" pipe on canal land from old canal to lessee's factory at Thorold, Ont., and draw water therethrough.
21435	May 29	William Hamilton.....	Land south of Dunnville lock in town of Dunnville, and privilege to construct, etc., weighing scales on roadway adjacent to Market Place.
21453	June 15	Corporation of Village of Merritton.	Privilege to lay and maintain pipes on canal land at Merritton, and discharge sewerage into canal.
21455	" 12	Canadian Dredging Co., Ltd.	Land south of cut to Port Robinson lock, part lot No. 203 in tp. of Thorold, Co. of Welland, Ontario.
21494	July 9	Pastime Canoe Club....	Land covered by waters of Martindale pond in village of Port Dalhousie, Ont. Part of lot No. 23 in 1st con., tp. of Grantham, Co. of Lincoln.
21539	Sept. 9	Electro-Metals, Limited	Privilege to lay and maintain a 24" drain pipe in place of a short length of government pipe, opposite lessee's plant at Welland, Ont.
21553	Sept. 15	John Speck.....	Land on south side of feeder in Marshville, being part lot No. 20 in 3rd con. of tp. of Wainfleet, Co. of Welland.
21560	Sept. 16	Andrew E. Stickel.....	Land south of Dunnville lock in town of Dunnville, Ont., being part of lot No. 3 in 1st range from Grand River, tp. of Moulton Co. of Haldimand, Ontario.
21634	Nov. 30	William Sullivan.....	Southerly half of double house and land at lock No. 2, old Welland canal, in city of St. Catharines, Co. of Lincoln.
21637	Dec. 9	Mrs. M. Unsworth.....	House and land, lot No. 3, on west side Welland street, south of Lyndon street, in town of Thorold, Ont.
21638	Dec. 9	The United Gas Companies, Limited.	Privilege to lay and maintain a gas pipe along W. towpath of old canal, from opposite Salina street to Dittrick street, St. Catharines, Ont., and privilege to maintain an 8" pipe across canal at Salina street.
21676	Dec. 23	William J. Smith.....	House and land lot No. 5 on westerly side of Welland street, south of Lyndon street, town of Thorold, Co. of Welland, Ontario.
21677	Dec. 23	City of St. Catharines..	Privilege to lay and maintain an 18" outlet sewer across canal reserve land and into the canal between locks 3 and 4.
21679	Dec. 23	Lewis Tenbroeck.....	Southerly half of double house and land at lock No. 15 old canal.
21683	Dec. 30	The Bell Telephone Co. of Canada.	Privilege to erect and maintain a telephone line alongside of highway swing bridge over Welland river at Bridgewater street, Chippewa.
21684	Dec. 30	The Relief Gas Company, Ltd.	Privilege to lay and maintain a 10" gas main under old Welland canal in city of St. Catharines, at a point adjacent to city's gas plant.

SESSIONAL PAPER No. 20

during the fiscal year ended March 31, 1916—*Continued.*CANAL—*Concluded.*

Area.	Term.	Commence- ment of term.	Terms of Payment.		
			Annual Rental.	Due each year.	First instal- ment due.
			\$ cts.		
1.48 ac.....	During pleasure.....	Mar. 1, 1916	13 00	Mar. 1 ..	Mar. 1, 1916
0.17 ac.....	"	" 1, 1916	2 00	" 1 ..	" 1, 1916
4.85 ac.....	"	" 1, 1916	6 00	" 1 ..	" 1, 1916

CANAL.

	During pleasure.....	Mar. 1, 1915	100 00	Mar. 1 ..	Mar. 1, 1915
	"	" 1, 1915	25 00	" 1 ..	" 1, 1915
0.006 ac.....	"	May 1, 1915	15 00	May 1 ..	May 1, 1915
	"	Feb. 1, 1915	10 00	Feb. 1 ..	Feb. 1, 1915
1.3 ac.....	"	June 1, 1915	25 00	June 1 ..	June 1, 1915
450 sq. ft.....	"	July 1, 1915	2 00	July 1 ..	July 1, 1915
	"	Sept. 1, 1915	10 00	Sept. 1 ..	Sept. 1, 1915
0.37 ac.....	During pleasure.....	Sept. 1, 1915	10 00	Sept. 1 ..	Sept. 1, 1915
0.04 ac.....	"	" 1, 1915	4 00	" 1 ..	" 1, 1915
	"	July 24, 1915	\$4 00 per month	July 24 ..	July 24, 1915
	"	July 8, 1915	13.00 per month	July 8 ..	July 8, 1915
	"	Dec. 1, 1915	5 00	Dec. 1 ..	Dec. 1, 1915
	"	Nov. 5, 1915	\$8.00 per month	Nov. 5 ..	Nov. 5, 1915
	"	Dec. 1, 1915	2 00	Dec. 1 ..	Dec. 1, 1915
	"	" 1, 1915	\$6 00 per month	" 1 ..	" 1, 1915
	"	" 1, 1915	1 00	" 1 ..	" 1, 1915
	"	Jan. 1, 1916	5 00	Jan. 1 ..	Jan. 1, 1916

DEPARTMENT OF RAILWAYS AND CANALS

7 GEORGE V, A. 1917

PROPERTY Leased by the Department of Railways and Canals

WELLAND

No. of Lease.	Date of Signature.	Lessee.	Lands or Rights Demised.
	1916.		
21718	Jan. 28	Hydro Electric Power Commission of Ontario.	Privilege of erecting and maintaining a 4,000-volt electrical transmission line over old canal at Carleton street, city of St. Catharines, Ont.
21735	Feb. 19	The Niagara, St. Catharines & Toronto Railway Co.	Privilege to construct, maintain and operate a railway crossing over canal hydraulic raceway at St. Catharines, Ont.
21742	Feb. 19	The Hydro Electric Commission of the City of St. Catharines.	Privilege to erect and maintain an electric transmission line along east and south sides of old canal from lock No. 4 to St. Paul street bridge, in St. Catharines, Ont.
21745	Feb. 24	The Toronto, Hamilton and Buffalo Railway Co.	Land on north side of feeder near Port Maitland lock.
21819	Mar. 25	Albert Charles Harris...	House on lot No. 8, Con. 7th tp. of Grantham, Co. of Lincoln, Ontario.

a Cancelled by Departmental letter of November 10, 1915.

b Supersedes Lease No. 19165, dated July 20, 1911.

c Assigned by No. 21694.

d Cancels and supersedes Lease No. 8968, dated Oct. 19, 1887.

SESSIONAL PAPER No. 20

during the fiscal year ended March 31, 1916—*Concluded.*CANAL—*Concluded.*

Area.	Term.	Commence- ment of term.	TERMS OF PAYMENT.		
			Annual Rental.	Due each year.	First Instal- ment due.
			\$ cts.		
	During pleasure.	Dec. 1, 1915	5 00	Dec. 1, ..	Dec. 1, 1915
	"	Jan. 1, 1916	5 00	Jan. 1. .	Jan. 1, 1916
	"	" 1, 1916	80 00	" 1...	" 1, 1916
3.98 ac.	"	" 1, 1916	10 00 ^e	" 1...	" 1, 1916
	"	" 1, 1916	\$5.00 per month	" 1...	" 1, 1916

^eCancelled by Departmental letter of April 13, 1916, as and from April 30, 1916.^fSupersedes Lease No. 15413, dated April 6, 1904.^gCancels and supersedes Lease No. 19672, dated September 25, 1912.

E. E. FAIRWEATHER,

Departmental Solicitor.

7 GEORGE V, A. 1917

PROPERTY LEASED to the Department of Railways and Canals by
TRENT

No. of Lease.	Date of Lease.	Lessor.	Lands or Rights demised.
	1915.		
21456	May 22	The Toronto Savings and Loan Company.	Rooms numbers one and three in the Bank of Commerce Building, Peterborough.
21597	Oct. 7	William Hamilton Co. Ltd	2,250 sq. ft. of ground space in yard of lessor at Peterborough, Ont.

SESSIONAL PAPER No. 20

various parties during the Fiscal Year ended March 31, 1916

CANAL.

Term.	TERMS OF PAYMENT.		First Instalment due.
	Annual Rental.	Due each year.	
3 years.....	\$450.00 per annum: first quarter, \$97.50.	Quarterly	
2 years.....	\$1.00 per annum.....	Oct. 1, 1915....	

E. E. FAIRWEATHER,

Departmental Solicitor.

7 GEORGE V, A. 1917

PROPERTY CONVEYED to the Department of Railways and
TRENT

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1915.		
21503	April 3.	Noah Morrow, <i>et ux.</i>	Parts of broken lot No. 18, con. 12th, and damages.
21504	May 26.	Artimus Ward Grigg, <i>et ux.</i>	Parts of lots "J" and "K" and part of land and rock known as "Grigg Island" west of lot "K" in village of Washago.
21662	Sept. 11.	The Board of Public School Trustees.	Part of lot No. 18 in 12th con.
21755	Oct. 14.	James Blackwell, <i>et ux.</i>	Part of E $\frac{1}{2}$ of lot No. 11 in con. 14.
21756	Nov. 24.	Gilbert W. Ostrom, <i>et al</i> (executors of est of Wm. Shea).	Part of lot No. 1, con. 3, and part of island in river Trent, part of lot A in con. 2, and part lot No. 1 in con. 3.
	1916.		
21757	Jan. 31.	William Moncreiff <i>et ux.</i>	Part of lot No. 4 N. of King street, village of Bolsover.
21827	Feb. 1.	Fanny Whiteside.	Part of lot No. 34 in 2nd con.

WELLAND

	1914.		
*21591	Sept. 8.	John R. Secord, <i>et ux.</i>	Parts of lots Nos. 6, 7, and 8 in 9th con.
*21663	Aug. 24.	Sarah A. Knight.	Lots Nos. 51 and 83 on McCormick street, town of Welland
	1915.		
*21664	Feb. 22.	Jacob E. Barrick, <i>et ux.</i>	Part of original township, lot No. 28, in 2nd con.
21665	June 15.	Helen Spencer.	Lots 48 and 49, block M.M.
	1914.		
*21666	Dec. 23.	John Morton, <i>et al.</i>	Part of lot No. 11 in 1st and Broken Front con., and part of Broken Front in front of lot No. 12 in 1st con.
	1915.		
21667	July 21.	Evan F. Upper, <i>et ux.</i>	Part of lots Nos. 48 and 49 and part of allowance for road between lots.
*21668	Mar.	Robert Bradley.	Part of lot No. 74.
21669	May 17.	William Powell, <i>et ux.</i>	Part of the S. $\frac{1}{4}$ of lot No. 10 in 3rd con.
21706	Oct. 15.	Geo. W. Weaver, <i>et ux.</i>	Lot No. 50 in block M.M.
21707	Dec. 10.	John James Fee.	Part of lots Nos. 7 and 8 in 8th con.
21708	Nov. 26.	Moses Boff, <i>et ux.</i>	Lot No. 52 on S. side of McCormick street.
	1914.		
*21709	Aug. 24.	Sydney C. Dennis.	Lot No. 85 and 86.
*21710	" 24.	Alexander Gordon, <i>et ux.</i>	Lot No. 21 in town of Welland.
	1916.		
21758	Feb. 2.	Chas. E. Secord.	Part of S. $\frac{1}{4}$ of lot No. 8 in 5th con.
	1915.		
21759	Oct. 18.	Mary Roberts Muir.	Part of lot No. 11 in 1st con.
21760	July 6.	Thomas Conlon, <i>et ux.</i>	Part of lots Nos. 1, 2, 3, and 4, fronting on west side of Wellington street.
21769	Oct. 27.	Eliza Jane Crysler, <i>et al.</i>	Part of Lot No. 19 fronting on north side of Canby street.
	1916.		
21771	Jan. 17.	Samuel J. Arbuthnot, <i>et ux.</i>	Part of lot No. 11 in 2nd con.
	1915.		
21815	Dec. 14.	John James Fee.	Part of lot No. 7 in 7th and 8th cons.
	1914.		
*21816.	Aug. 25.	Wm. M. Hill, <i>et ux.</i>	Part of lot J.T. on east side of Aqueduct street, and right of way across part of lot J.T.
	1915.		
21817	Aug. 24.	Katherine Kirby.	Lots Nos. 54 and 55 in town of Welland.
	1916.		
21822	Feb. 11.	Mary Ann McDonagh, <i>et al.</i>	Parts of lot No. 49 and road allowance between lots No. 49 and 72, and part of lot No. 73.

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Canals during the Fiscal Year ended March 31, 1916.

CANAL.

District, or Township.	County.	Area.	Amount.
Tay.	Simcoe.	2.11 acres.	\$ cts.
Rama.	Ontario.	0.087 acre.	700 00
			100 00
Tay.	Simcoe.	0.75 acre.	2,000 00
North Orillia.	"	4.4 acres.	90 00
Sydney.	Hastings.	2.95 acres.	177 00
Eldon.	Victoria.	0.04 acre.	10 00
Morrison.	Muskoka.	0.2 acre.	10 00

CANAL.

Grantham.	Lincoln.	17 acres	
Welland.	Welland.	12.5 acres	22,000 00
			900 00
Humberstone.	"	5.46 acres.	1,650 00
			850 00
Grantham.	Lincoln.	33.07 acres	19,500 00
		0.8 acre	
Thorold.	Welland.	6.25 acres.	10,000 00
"	"	4.1 acres	
		2.6 acres	3,500 00
Grantham.	Lincoln.	10.58 acres.	5,000 00
Welland.	Welland.	0.129 acre.	400 00
Grantham.	Lincoln.	31.3 acres.	8,600 00
Welland.	Welland.		425 00
"	"	0.303 acre.	2,600 00
"	"	0.145 acre	1,900 00
Grantham	Lincoln.	36.21 acres.	10,115 60
"	"	6.38 acres.	Compensa- tion.... 3,158 00
			Interest.... 266 07
Thorold.	Welland.	18 acres.	1,000 00
Allanburgh.	"	0.032 acre.	175 00
Grantham	Lincoln.	6.33 acres.	3,815 00
"	Lincoln.	1.3 acre.	260 00
Welland.	Welland.	0.089 acre.	1,700 00
"	"	0.32 acre.	4,600 00
Thorold.	"	73.87 acres.	19,467 50

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PROPERTY CONVEYED to the Department of Railways and Canals

WELLAND

Number of Deed.	Date of Deed.	Grantor.	Lot.
21823	1915. Dec. 21..	William Munro, <i>et ux.</i>	Parts of lots Nos. 12 and 13.....
21824	1916. Mar. 6..	Joseph B. Boase, <i>et ux</i>	Part of lot No. 9 in 5th con.....
21825	Feb. 23..	Melvin W. Daboll, <i>et ux.</i>	Lots Nos. 53, 59, and 68.....
21826	Jan. 31..	Margaret E. Pattison, <i>et al.</i>	Part of lot Q.Q. and part of lot S.S.....
21862	1915. Oct. 23..	Thomas H. Bessey, <i>et ux.</i>	Part of lots Nos. 7 and 8 in 8th con.....

HUDSON BAY

21712	1915. Oct. 12..	Synod of Diocese of Saskatchewan (Church of England).	Part of lot No. 1 in group 321, tp. 56, range 26, west of the Principal meridian.
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* Too late for last year's report.

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during the Fiscal Year ended March 31, 1916—*Concluded.*CANAL.—*Concluded.*

District.	County.	Area.	Amount.
Thorold.....	".....	13.83 acres.....	9,375 00
Grantham.....	Lincoln.....	2.9 acres.....	750 00
Thorold.....	Welland.....	11.5 acres.....	3,000 00
".....	".....	5.00 acres } 10.25 acres }	7,725 00
Grantham.....	Lincoln.....	11.41 acres.....	2,600 00

RAILWAY.

.....	Manitoba.....	0.96 acre.....	2,300 00
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E. E. FAIRWEATHER,

Departmental Solicitor.

7 GEORGE V, A. 1917

PROPERTY CONVEYED by the Department of Railways

WELLAND

Number of Deed.	Date of Deed.	Grantor.	Lot.
21675	1915. Dec. 16..	Thos. H. Bessey.....	Part of lot No. 8 in 8th con.
21786	1916. Mar. 6..	Inland Pulp and Paper Co., Ltd.	Part of lot PP. and part of park lot No. 5, as laid down on the Municipal plan No. 11.

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and Canals during the Fiscal Year ended March 31, 1916.

CANAL

District.	County.	Area.	Amount.
Grantham.....	Lincoln.....	5 acres.....	Certain other lands.
Thorold.....	Welland.....	0.3 acre.....	"

E. E. FAIRWEATHER,
Departmental Solicitor.

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DAMAGES paid for during the Fiscal Year ended March 31, 1916.

TRENT CANAL.

No. of Release.	Date of Release.	Grantor.	Description.	Amount.
	1915.			\$ cts.
21358	April 3.	Margaret Nesbitt.....	For damages by water to the W. $\frac{1}{4}$ of lot No. 20 in the 8th con. of the tp. of Eldon, Co. of Victoria, Ontario.	400 00
21589	May 18.	Corry & Laverdure and Thos. Birkett.....	Of all claims arising out of or incidental to contracts Nos. 12412, 13547, and 13773, or any other contract in connection with said public work.	16,000 00
21590	May 15.	John C. McConkey, <i>et al</i>	For damages by water to the NE. $\frac{1}{4}$ of lot No. 18 in the 10th con. of the tp. of Smith, county of Peterborough.	202 50
21713	Oct. 18.	Corporation of the Township of Fenelon.	For all claims and demands by reason of the expropriation of three portions of highways in tp. of Fenelon, Co. of Victoria, viz—0.16 acre part of Cherry street in village of Rosedale; 1.05 acre road allowance between con. 8 and 9 and 1.5 acre, part of lots Nos. 31 and 32 in con. 8.	1 00
21714	Oct. 4.	Township of South Monaghan.	For damages by water to certain highways and roadways.	1,800 00
21867	Oct. 16.	Township of South Monaghan.	For damages by water to certain highways and roadways.	2,000 00
21868	July 24.	W. N. Blewett, <i>et uz</i>	For damages caused by raising of Buckhorn dam, to parcel of land, 2 acres in extent, being composed of Part of lot No. 9, con. 8, and part of lot No. 9, lying south of Main street east of line between 8th and 9th con., tp. of Harvey, Co. of Peterborough, Ontario, and to saw-mill erected on said lands.	75 00
21869	Dec. 7.	Rosa Whalen, <i>et al</i>	For damages by water to east end of the S. $\frac{1}{4}$ of lot No. 4 in 4th con., tp. of Carden, Co. of Victoria, Ontario.	30 00

WELLAND CANAL.

21870	1916. Feb. 26.	Mortimer A. Ball.....	For damages consequent upon the cutting down or injuring of trees on lots Nos. 20, 21, 22, and 23 in 5th and 6th con. of the tp. of Louth Co. of Lincoln, Ontario.	100 00
21438	1915. May 28	Anna T. Zimmerman...	For compassionate allowance owing to the death of George A. Zimmerman.	2,000 00

LACHINE CANAL.

21369	1915. May 11	Lillian Morton.....	For compassionate allowance owing to the death of Michael Lawrence Allen.	1,000 00
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HUDSON BAY RAILWAY.

21368	1915. May 10.	Beatrice Smith.....	For compassionate allowance owing to the death of Walter B. Smith.	2,000 00
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E. E. FAIRWEATHER,

Departmental Solicitor.

PART III.

REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT

AND

Reports of the Superintending Engineers, Engineers in Charge, and Superintendents of the various Canals, the Engineer in Charge of the Car Ferry Terminals at Cape Tormentine, the Chief Engineer of the Hudson Bay Railway, the Engineer in charge of the Hudson Bay Railway Terminus at Port Nelson, the Engineer in Charge of the Dartmouth-Deans Branch of the I.C.R., and the Inspecting Engineer of the Department of Railways and Canals,

FOR THE YEAR 1915-16.

Ernest Marceau, Superintending Engineer, Quebec Canals.

C. D. Sargent, Superintending Engineer, Ontario St. Lawrence and St. Peter's Canals.

A. T. Phillips, Superintending Engineer, Rideau Canal.

A. J. Grant, Superintending Engineer, Trent Canal.

A. L. Killaly, Superintendent, Trent Canal.

J. L. Weller, Engineer in Charge, Welland Ship Canal.

L. D. Hara, Acting Superintending Engineer, Welland Canal.

J. W. LeB. Ross, Superintending Engineer, Sault Ste. Marie Canal.

F. B. Fripp, Engineer in Charge, Car Ferry Terminals, Cape Tormentine.

J. W. Porter, Chief Engineer, Hudson Bay Railway.

D. W. McLachlan, Engineer in Charge, Hudson Bay Railway Terminus, Port Nelson.

W. A. Hendry, Engineer in Charge, Dartmouth-Deans Branch, I.C.R.

Alex. Ferguson, Inspecting Engineer, Dept. of Railways and Canals.



REPORT OF THE CHIEF ENGINEER.

OTTAWA, April 1, 1916.

SIR,—I have the honour to submit my annual report for the fiscal year ending 31st March, 1916.

Attached hereto will be found the annual reports of the superintending engineers of the several canals, the superintendent of the Trent canal, the engineer in charge of the Welland Ship canal, the engineer in charge of the car ferry terminals at Cape Tormentine, the chief engineer of the Hudson Bay Railway, the engineer in charge of the Hudson Bay Railway terminus at Port Nelson, and the engineer in charge of the Dartmouth branch of the Intercolonial railway.

CANALS.

The through water route between Montreal, at the head of ocean navigation, and Fort William and Port Arthur, on the west shore of lake Superior, comprises 74 miles of canal with forty-eight locks and 1,155 miles of river and lake waters, or a total 1,229 miles. The minimum depth of water on this route is 14 feet. From Montreal to Duluth, on the southwest end of lake Superior, the total distance is 1,354 miles, and to Chicago 1,286 miles. A summary of this route will be found in part VII, together with details of the several works thereon. Connection is made with the Canadian Pacific railway from points west and south at Fort William and Port Arthur (6 miles apart.) From Fort William, connection with the main line of the National Transcontinental railway is made by the branch line originally constructed by the Grand Trunk Pacific Railway, but now leased and operated by the Canadian Government railways.

On this through route the approaches to the canals and the channels of the intermediate river reaches are well defined and are lighted with gas buoys under the control of the Department of Marine and Fisheries, admitting of safe navigation, in the hands of competent pilots, both by day and night. The Lachine, Soulanges, Cornwall, Welland, and Sault Ste. Marie canals are lighted throughout by electricity, and electrically operated. The Farran's Point canal is lighted by acetylene gas.

Of the minor systems, the Murray, Trent, Rideau, and Ottawa River canals may be considered geographically as branches of the through east-and-west route. In operation, however, these canals serve a distinct traffic of more local nature. Isolated from the systems just mentioned, the navigation of the Richelieu river, from its junction with the St. Lawrence at Sorel, to lake Champlain, is effected by means of the St. Ours lock and the Chambly canal; while in the extreme east the St. Peter's canal provides communication between the Bras d'Or lakes of Cape Breton island and the Atlantic ocean.

Detailed information respecting the several canals is contained in an appendix.

With the exception of the Trent canal, where the construction of an extension of the present system to an outlet on lake Ontario is still in progress, and the Welland Ship canal, fully described farther on in this report, the work executed during the past year has been almost wholly of the nature of improvements and repairs of existing works.

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LACHINE CANAL.

In addition to the usual repairs incidental to the maintenance of the canal, the most extensive work carried out during the year was the cutting off of a projection in the south bank between Cote St. Paul bridge and Cote St. Paul lock, and the lining of the newly-formed slope with a concrete retaining wall. The regulating weir on the south side near this lock was enlarged, and it had been the intention to erect over this weir a new and enlarged power-house; this latter work, however, was not undertaken.

SOULANGES CANAL.

The south guide pier and breakwater erected last season were widened to 25 feet on top and the slopes rip-rapped. This work, which is now fully completed, allows of vessels locking through the canal in the roughest weather. The wharves at Cedars and Coteau du Lac were taken down and replaced by new and improved wooden pile and reinforced concrete structures.

STE. ANNE'S LOCK.

The repairs made during the year at this lock were of minor importance, such as the pointing of masonry, repairs to banks and guard pier, etc.

ST. OURS LOCK.

Repairs made at this lock during the year were of an unimportant character.

CARILLON AND GRENVILLE CANALS.

Three pairs of gates for locks 5 and 6 were rebuilt, a boulder retaining wall 200 feet in length was constructed along the north side of the towpath of the Grenville canal, and the lock house at Grenville was rebuilt.

BEAUHARNOIS CANAL.

This canal has been under lease to the Canadian Light and Power Company since 1907 and is, with the exception of a few minor works connected with it, no longer under the control of this department. No work worthy of mention was performed during the past year.

CORNWALL CANAL.

Throughout the entire season navigation was seriously interfered with by the extreme low water which prevailed.

Among the more important repairs and improvements carried out during the year, the following might be mentioned: Old lock No. 18 was permanently closed by a concrete dam surmounted by a service bridge. This lock, together with old locks 19 and 20, are now all similarly closed up, being no longer required for navigation purposes. The old wooden bridges over the weirs at old lock 17, at the guard gates above lock 20 and at the large offtake weir at the foot of Sheik's island, were all removed and replaced by steel-concrete structures. The wooden floor of the highway bridge over the offtake weir at the foot of Sheik's island was rebuilt in reinforced concrete, the roadway being considerably widened. A single-span steel highway bridge was erected over the head-race to the mills just north of old lock 17. In addition to the works of a permanent character just mentioned a large number of lesser repairs and replacements were effected.

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FARRAN'S POINT CANAL.

On the north side of this canal near the upper entrance it was found necessary to rebuild about 700 feet of the stone protection wall.

At the lower entrance to the lock extensive repairs were made to the masonry retaining wall on the south side.

RAPIDE PLAT CANAL.

A number of small repairs and improvements were made during the past season, the most extensive work carried out being the relaying of upwards of a mile of stone protection wall along the sides of the canal.

GALOPS CANAL.

In addition to the usual lesser repairs, two new culverts were constructed, one at Iroquois and the other at Cardinal. At Presqu'île the stone protection wall on both sides of the canal was relaid over a distance of nearly a mile.

MURRAY CANAL.

Small repairs and improvements only were made to this canal during the past fiscal year, such as the painting of buildings, pointing and repairs to masonry, and the gravelling of the highway along the north bank.

RIDEAU CANAL.

Owing to the fact that there was practically no freshet in the spring of 1915, the water in Rideau lake fell to an unusually low level. The somewhat heavy rainfall in the following summer, however, improved conditions to some extent, and at no time during the navigation season was a less depth than 5 feet recorded on the lock sill.

Of the various improvements and repairs made on this canal during the past season the following may be mentioned as among the more extensive: The chamber walls of lock 5 on the Ottawa station were taken down and rebuilt in concrete. About 250 feet of the timber wharf on south side of basin was taken down and rebuilt, as also a portion of the wharf near Laurier Avenue bridge, which had been burned. An additional 100 feet of concrete wall was added at the south end of the long wall constructed last season on the west side of the deep cut along the driveway. Between Bank Street and Bronson Avenue bridges, the canal channel was considerably widened, the excavated material being used to widen the Dow's Lake dam. At Hartwell's lock the existing bridge on the by-wash was replaced, concrete abutments being substituted at the same time for the old wooden cribs. A new "lay-by" pier was erected just below the lower lock. At Hogsbach station repairs were made to the chamber wall, gate piers, etc., and a new "lay-by" pier constructed. At Black Rapids lock the west wall of the waste weir, which had given way, was renewed in concrete. At Merrickville the new concrete retaining dam has now been completed. At Smith's Falls the basin dam was rebuilt. On the Perth branch of the canal, the work of removing the rock shoals in the Tay river, which has been in hand for several seasons, was completed. The reservoir dam at Bob's lake was rebuilt in concrete. In addition to the foregoing, the usual maintenance work such as the painting of lock gates and buildings, pointing of masonry, small repairs to bridges and wharves, etc., was carried out.

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TRENT CANAL.

The route of the Trent canal, as now in operation or under construction, lies between Trenton on the bay of Quinte, where direct connection with lake Ontario is made, and Port Severn on Georgian bay, from which port the waters of the upper great lakes are at once accessible. The portions of the canal now under construction lie between Trenton and Rice lake and between lake Couchiching and Georgian bay.

CANAL IN OPERATION.

The extent of waterway open to navigation lies between Trent Bridge and Washago, a distance of 160 miles. In addition to this, other channels maintained would approximate a total of 90 miles.

Of the various repairs and improvements made during the past year the following may be noted as among the more important: A swing span highway bridge was erected over the canal at Lindsay, replacing the former wooden bridge. The work of deepening and widening the channel in the Otonabee river was proceeded with satisfactorily, and will be continued during the coming season.

Water conditions during the year were exceptionally favourable, the precipitation over the Trent watershed being considerably in excess of the average. As a result of this it was found possible to hold all navigation lakes up to the desired level throughout the autumn.

CANAL UNDER CONSTRUCTION.

Ontario-Rice Lake Division.—Under this division is included the portion of the canal which lies between Trenton and the easterly end of Rice lake, a total distance of $56\frac{1}{2}$ miles. For construction purposes this division has been subdivided into seven sections or contracts. The line of the river Trent has been followed throughout, and this portion of the system when completed will comprise $9\frac{1}{2}$ miles of canal, 13 miles of subaqueous channels, and 34 miles of deep river waterway. From the mouth of the canal at Trenton, where the waters of lake Ontario are connected with, to the normal navigation level of Rice lake, there is a total rise of 369 feet. This difference of level is to be overcome by eighteen locks. For control of the river and canal levels, fourteen dams will be required. The locks have now all been completed, and the lock gates put in place on the first seven locks above Trenton. Work on the dams is now fully completed with the exception of five sluices in the bottom of dam No. 10, which are not likely to be finished until the high-level G.T.R. bridge at Campbellford has been constructed. Nineteen bridges in all will be required on this division. Seventeen of these are already completed. Of the two remaining, one is the high-level bridge at Campbellford, already mentioned, and the other the Gilmour Siding bridge below lock 1, work on the substructure of which is already under way. All these bridges, with the exception of that at Campbellford, are of either the swing or bascule type. The locks are constructed of monolithic concrete, are 175 feet long and 33 feet wide, and provide for a depth of water over the sills of 8 feet. The entire work of this division of the canal will, when completed, have involved the removal of about 1,500,000 cubic yards of earth, and 1,250,000 cubic yards of solid or loose rock, and the placing of 400,000 cubic yards of concrete. The estimated cost of this work is placed at \$5,100,000, of which sum about 95 per cent has been expended to date. Very complete and interesting details in regard to the foregoing will be found in the report of the superintending engineer, appended hereto.

Severn Division.—Under this division is included the portion of the canal between lake Couchiching and Port Severn on Georgian bay, a total distance of 43 miles. In this distance there will be included 4 miles of canal, $5\frac{1}{2}$ miles of subaqueous channel,

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and 33½ miles of deep river and lake navigation. The rise of about 139 feet between the level of lake Huron and that of lake Couchiching will be overcome by five locks. For the regulation of the river levels, thirteen dams will be required. The route of the canal will be crossed by eight steel bridges, five for highway and three for railway traffic. Five of these bridges will be fixed spans, and the remainder swing spans. For construction purposes this division has been subdivided into four sections or contracts, three of which are under contract. The Port Severn section, which comprised the construction of a lock 100 feet long and 25 feet wide, was completed by the end of last November. On section No. 2, which comprises the construction of dams at Pretty channel and Swift rapids, and a lock and power-house at the latter point, together with the reconstruction of the Canadian Northern Railway bridge at Ragged rapids, and extensive granite rock excavation, the work has progressed satisfactorily, the dam at Pretty channel having been completed, the dam at Swift rapids being well under way, as also is the work on the lock and power-house, while considerable rock excavation has already been done at Flat rapids, Portage bay, and at the railway bridge at Ragged rapids. On section No. 3, the work being undertaken consists in the construction of a lock of 20 feet lift, two highway swing bridges, one railway swing bridge and several small dams near Washago, besides a large quantity of earth and rock excavation. Good progress has been made on the bridges, one of the dams at Washago has been completed, and the excavation for the lock has been about half taken out. The dredging of lake Couchiching has been nearly completed.

WELLAND CANAL.

On the new canal, the most important improvements and repairs made during the year included the renewal in reinforced concrete of the former wooden bridges over the weirs at locks 13, 14, 15, 17 and 22, the replacement of the wooden float between Port Dalhousie harbour and the by-pass below the weir at lock 1 by a wooden single-leaf hinged footbridge, and the renewal of the masonry substructure of the hell-path bridge at the head of lock 8. On the old canal, Marlatt's bridge at Thorold, a steel highway swing span, being no longer required was moved down the canal to Lyndon street and re-erected at this point on the substructure which had already been prepared to receive it. At St. Paul street, St. Catharines, the high-level bridge, a steel structure of nine spans on concrete piers and abutments, crossing the canal, was completed. In addition to the foregoing, several wooden footbridges, which had fallen into bad repair, were renewed in reinforced concrete. On the canal feeder considerable damage was sustained from the Grand River freshet of this spring, particularly at the highway bridge over Sulphur creek. The easterly highway swing bridge over the feeder at Stromness was completely renewed in steel on a concrete substructure. In addition to this, a number of lesser repairs were made at various points.

PORT COLBORNE ELEVATOR.

Owing to war conditions causing a scarcity of ocean bottoms at Montreal, and other allied causes, the amount of business at this elevator showed a decrease for the first time since its erection in 1908. The amount of grain handled during the year aggregated 28, 733, 822 bushels, the net earnings being \$73,093.14. An addition to the elevator, giving a storage capacity of two million bushels, was completed during the year.

WELLAND SHIP CANAL.

The work on the new ship canal is divided into nine sections, numbered from the lake Ontario end of the canal. During the past year work under contract has been carried on continuously on sections 1, 2, 3, and 5. No additional sections have been placed under contract.

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Section No. 1.—The work included in this section covers principally the construction of the new harbour at the lake Ontario end of the canal, and the lock and entrance to the canal connected therewith. Work has progressed very favourably during the past year, and the work under contract is now nearly half completed.

Sections Nos. 2 and 3.—The work on these two sections consists principally in the construction of canal prism, locks, waste weirs, overhead bridges, and a diversion of the Grand Trunk railway, Welland division, to permit of a more satisfactory location for the canal. There are to be three single and three twin locks on these sections. On section No. 2 there is practically no rock excavation; on section No. 3, however, a very large proportion of the work is in heavy rock cuttings. Work of all classes on these two sections has progressed very satisfactorily during the year. The contract work on section No. 2 is now 45 per cent completed, and on section No. 3, 28 per cent.

Section No. 5.—The work on this section includes the widening and deepening of the existing canal between Allanburg and Port Robinson, or for a distance of about $2\frac{1}{2}$ miles. Work has been steadily going ahead during the year, and the contract covering this section is now 52 per cent completed.

In the annual report of the engineer in charge, appended hereto, are given very complete and interesting details in connection with all the work now in progress. A full description of the whole scheme of the ship canal route will be found in the report of the engineer in charge for the years 1912-13.

ST. PETER'S CANAL.

This canal was closed during the past season to allow of the works under construction being readily proceeded with. A few vessels, however, made the passage of the canal previous to 8th June. The improvement works consist in the construction of a new lock at the Atlantic end of the canal. This work, which was commenced in May, 1912, has been carried on in each successive season. Progress during the past year has been satisfactory, and it is hoped that the canal will be ready for navigation by next August.

SAULT STE. MARIE CANAL.

During the past year, both freight and passenger traffic through the canal has shown a considerable decrease. This is due principally to the opening for traffic of the third canal on the American side, where there is now an advantage offered of 6 inches increased draught over that of our own canal. This advantage lay formerly with the Canadian canal. Only two accidents to vessels of importance occurred during the year. No damage was done to the canal, and that suffered by the vessels was but slight. The work of renewing the top of the lower south pier, commenced last season, was continued, and a further length of 300 feet rebuilt. The usual general repairs were carried out.

RAILWAYS.

CAR FERRY TERMINALS, NORTHUMBERLAND STRAITS.

This undertaking comprises the construction of harbour works, landing piers, etc., at Cape Tormentine, N.B., and Carleton Point, P.E.I., distant 8 miles apart, and the building of about 3 miles of railway connecting the Cape Traverse branch of the Prince Edward Island railway with the Carleton Point terminal.

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At Cape Tormentine the cribs for the landing slip are nearly completed. The core of the breakwater has been completed for its entire length, and a temporary protection of rubble stone placed on the slopes. The dredging of the turning basin is now about half completed. The piers for the transfer bridge have been finished, and work on the abutment is in progress.

At Carleton Point the core stone of the landing approach has been carried out to full length and the finished work now extends to 850 feet from shore. All materials for the cribwork landing slip have been assembled on shore, and the construction of the cribs is now under way. The core of the rubble mound breakwater has been fully laid and the slopes temporarily protected with large rubble stone. The breakwater being now sufficiently advanced to afford protection, the dredging of the turning basin will be proceeded with.

On the Carleton Point Branch Railway, track has been laid and grading, etc., completed for a distance of 2½ miles. It is expected that connection with the ferry landing will be made by an early date.

Much time has been lost on this work owing to its exposed position and the bad weather and rough seas that have prevailed during a considerable portion of the past season.

HUDSON BAY RAILWAY.

Owing to a change in the location of the terminal yard at Port Nelson, placing it upon a much higher ground than originally intended, it was found necessary to relocate the last 30 miles of the railway. This work was satisfactorily carried out during the past winter.

The right of way has now been cleared to mile 395 from Le Pas, the grading of the roadbed is completed to mile 378, or within 47 miles of Port Nelson, and track is now laid to the 241st mile, or up to the first crossing of the Nelson river at Manitou rapids. Track has been ballasted and surfaced up to mile 225. The telegraph line has been carried to mile 241. Two water tanks have been completed and connected with water supplies. At Manitou rapids, the bridge over the Nelson river, a 304-foot span of the anchored cantilever type, is now practically completed. Progress during the year may be considered on the whole as satisfactory.

HUDSON BAY TERMINUS.

Navigation of the harbour at Port Nelson became possible on June 15, 1915, on which date the tug *Kathleen* was floated. During the season which ensued two round voyages from Halifax to Port Nelson were made by the ss. *Sheba* and *Durley Chine*, owned by the department, and three round voyages were made by each of the sealers *Bellaventure* and *Adventure*, operated by the department under time charters, the former being used to tow out the bulk *Benmore* and return her to Port Nelson laden with coal. The first arrival from sea reached Port Nelson on August 1. The last vessels to sail left on 22nd October, and met with no difficulties on the homeward voyage.

The construction of heavy plant and service works was completed early in the season, and thereafter good progress was made on the works connected with the establishment of the deep-water docks.

Among the works in the first category might be mentioned the construction and assembly of two orange-peel dredges and a stern wheel tug, the construction of dump and deck scows, the construction of a dry dock for the repair of floating plant, a wharf at Flamborough head, reconstruction of wharf No. 1, which was damaged by ice, extension of wharf No. 3, the construction of beacons at Nelson shoal and at Flamborough head, the survey and buoying of river channels, test piling and boring over a consider-

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able area of river bottom to determine the character of substrata with reference to the location of harbour works, the construction of a waterworks system, in addition to lumbering operations and the general repair and maintenance work.

The proposed deep-water development consists of the creation of an elongated island, faced with stone-filled timber cribwork or sheet piling, situated near the outer edge of the tidal flats, and lying approximately parallel to the natural deep-water channel of the river; along the face of this island adjacent to the deep-water channel a depth of 30 feet will be provided by dredging. Between the steamer berths and the natural deep-water channel a minimum depth of 20 feet at extreme low tide will be provided. The island will be connected with the mainland by a series of seventeen steel spans of 140 feet in length c. to c., supported by clusters of piles driven through stone-filled crib piers. These piers are being constructed of unusually large size to provide adequate resistance to the ice, so that the structure as a whole might be regarded as consisting of seventeen separate single-span bridges connecting up these piers, rather than as a bridge of seventeen spans. The stone for the filling of cribs and rip-rapping around them is being obtained by dredging from the river bottom at a point near Flamborough head, 9 miles above the site of the works. Twelve piers had been completed, and the steel work of seven spans erected at the end of the fiscal year.

The manner in which the work thus far constructed has withstood ice movement and the action of tidal currents has been very satisfactory.

The orange-peel dredges were employed in preparing crib seats and procuring stone for filling and rip-rapping. The hydraulic dredge was employed in deepening the main channel.

During the winter months the construction forces were reduced to about 200 men, which number will be increased to about 500 men during the open season of 1916.

The labour forces retained during the winter months were kept steadily employed on such works as the construction of scows and buildings, repairs to plant, the removal of trestles no longer required, the bringing in of supplies, the driving of test piles and the making of borings to determine the character of substrata of the river bed on the site of proposed harbour works, and in logging operations up the Airhole river, a tributary of the Nelson.

DARTMOUTH BRANCH, I.C.R.

This line, which, as will be noted from last year's report, was all but completed on March 31, 1915, was entirely finished during the past season, and put into operation in January last. The condition of the road as handed over by the contractors was generally satisfactory.

SUBSIDIZED RAILWAYS.

During the past fiscal year, inspection of subsidized railways have been made by the department, aggregating in all 5,150 miles. Full details as to the lines of railway covered by these inspections will be found in the report of the inspecting engineer, appended hereto.

I have the honour to be, sir,

Your obedient servant,

W. A. BOWDEN,

Chief Engineer.

A. W. CAMPBELL, Esq.,
Deputy Minister,

Department of Railways and Canals,
Ottawa.

REPORT OF THE SUPERINTENDING ENGINEER, QUEBEC CANALS.

MONTREAL, July 8, 1916.

SIR,—I have the honour to submit herewith my annual report on the works under my charge for the fiscal year ended March 31, 1916.

The Quebec Canals division comprises the Lachine and Soulanges canals on the St. Lawrence route, the Ste. Anne's, Carillon, and Grenville canals on the Ottawa river, and the St. Ours and Chambly canals on the Richelieu river.

Of these, the Lachine canal is by far the most important owing to its immediate connection with the harbour of Montreal.

LACHINE CANAL.

Length, $8\frac{1}{2}$ miles; total rise, 45 feet; five locks, 270 feet by 45 feet, with 14 feet of water on sills; five old locks, 200 feet by 45 feet, with 9 feet of water on sills, still available to navigation.

OPERATION.

Navigation was carried on smoothly during the whole season, with only one interruption of some thirty hours, due to the carrying away of the lower gates of lock No. 3, by the tug *Glide*, on the 2nd November, 1915.

During the winter, the canal lighting system was changed, the old Thompson Houston open arc double carbon lamps being replaced by incandescent nitrogen lamps.

This canal was opened for navigation on the 20th April, and closed on the 13th December, 1915.

REPAIRS AND RENEWALS.

There is nothing to record under this head beyond the maintaining in good order of the various canal structures, locks, lock gates, swing and fixed bridges, fences, buildings, etc., and the building of reinforced concrete blocks at the north and south ends of the abutments of St. Gabriel bridge and at the north end of the abutment of the stationary bridge at Lachine.

In addition to the above, sixty cast-iron mooring posts, set in heavy concrete bases, were placed at various points along the line, and the Mill Street power-house underwent a general overhauling, necessitated by the remodelling of the electric light system.

CAPITAL.

Improvements at lock No. 4.—The works embraced in the contract No. 20049, awarded to Messrs. Quinlan, Robertson & Miller, in 1913, consisted of: cutting off a projection of the south bank of the canal extending from Cote St. Paul bridge to the old Cote St. Paul lock, and the lining of the newly formed slope with a strong concrete retaining wall; the enlarging of the regulating weir on the south side of the lock; the building of a new and enlarged power-house over this weir, the intention being to discard the Mill Street power-house and develop at Cote St. Paul all the power required for the canal electric services; and the paving of that portion of the south bank extending from the Cote St. Paul bridge to a point about 500 feet east of the Cote St. Paul lock.

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At the end of the fiscal year which expired on March 31, 1916, the contract was completed, with the exception of the paving and new power-house, the construction of which has been postponed indefinitely.

DREDGING.

During last winter the two steam tugs *Frank Perew* and *Carillon*, the steam spoon dredge No. 2, the floating steam derrick No. 1, and the fifteen flat and dump scows, forming our dredging fleet, were overhauled and made ready for the opening of navigation.

From the 1st to the 19th May, 1915, the dredge was engaged cleaning the new channel at the upper entrance to the Soulanges canal, while the steam derrick was doing some excavation at Ste. Anne de Bellevue, in connection with the renewal of the head pier between the old and new locks, and some cleaning in the channel above the new lock.

On the way up to Coteau Landing, the steam derrick stopped at the lower entrance to the Soulanges canal, where some cleaning had to be done, and proceeded to Coteau Landing on the 1st June.

Both were thereafter employed until the end of the season completing the new channel above the Soulanges guard lock and forming the bank on the river side of the extension pier; also preparing the foundation for the crib and concrete facing of the government dam at Valleyfield.

The whole fleet returned to its winter quarters in the Lachine canal on the 21st November, 1915.

SOULANGES CANAL.

Length, 14 miles; five locks, 270 feet by 45 feet; 15 feet of water on the sills; total rise, 84 feet.

OPERATION.

The Soulanges canal was opened to navigation on the 20th April and closed on the 13th December, 1915.

REPAIRS AND RENEWALS.

The maintaining in good order of the various canal structures, locks, lock gates, bridges, buildings, fences, roads, etc., is practically all that has been done here under the above head during the year, except the reinforcing of the concrete bases of some twenty mooring posts, and the quarrying of about 3,000 cubic yards of stone, which will be used in refilling the notch in the canal slopes at places where the stone originally placed there has fallen down.

CAPITAL.

Protection works at Upper Entrance.—During the summer of 1915, the extension to the south guide pier and breakwater, completed by Messrs. Haney, Quinlan & Robertson the year before, was widened to 25 feet on the top, the material used being taken from the bed of the river, in the canal entrance, by our own dredge.

The outer slopes of both the extension and the breakwater were then lined with rip-rap stone procured, under contract, from Mr. Philias Doré, of Valleyfield.

These works are now fully completed and permit of vessels locking through in the roughest weather.

INCOME.

Rebuilding Wharves.—The wharves at Cedars and Coteau du Lac, originally built by the Department of Public Works and lately taken over by this department, had become unsafe for the handling of freight over them. Both were taken down and replaced by new structures, consisting of wooden piles with reinforced concrete superstructure. Each of them is 101 feet in length, and can accommodate vessels drawing 9 feet.

Mooring Posts.—Under this item thirty new mooring posts were placed at various points along the canal.

STE. ANNE'S LOCK.

Length, half mile; one lock, 240 by 45 feet, with 9 feet of water on the sills; old lock, still available, 200 by 45 feet, with 6 feet of water on the sills; total rise, 3 feet.

OPERATION.

This lock was opened to navigation on the 19th April and closed on the 3rd December, 1915.

REPAIRS AND RENEWALS.

The chief items of repairs executed during the fiscal year were as follows: Overhauling booms in lower and upper entrances; length, 750 feet. Reforming bank above locks and putting in three cast-iron mooring posts set in concrete. Pointing side walls in lower entrance. Repairing guard pier above old lock.

CARILLON AND GRENVILLE CANALS.

Carillon canal: Length, three-quarter mile; two locks, 200 by 45 feet, with 9 feet of water on the sills; total rise, 16 feet.

Grenville canal: Length, $5\frac{3}{4}$ miles; five locks, 200 by 45 feet, with 9 feet of water on the sills; total rise, $45\frac{3}{4}$ feet.

OPERATION.

These canals were opened to navigation on the 20th April and closed on the 27th November, 1915.

REPAIRS AND RENEWALS.

The most important works performed here, under the above head, during the fiscal year were as follows:—

Rebuilding three pairs of gates for locks Nos. 5 and 6.

Building boulder retaining wall, some 200 feet in length, along the north side of the towpath, Grenville canal.

Rebuilding lock house at Grenville. This building had been destroyed by fire during the winter.

Building a new scow, 30 feet by 16 feet by 3 feet.

ST. OURS LOCK.

Length, one-eighth mile; one lock, 200 by 45 feet, with $6\frac{1}{2}$ feet of water on the sills; rise, 5 feet.

OPERATION.

This lock was opened to navigation on the 17th April and closed on the 2nd December, 1915.

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REPAIRS AND RENEWALS.

All the structures, buildings, fences, etc., were kept in good order during the year.

CHAMBLY CANAL.

Length, 12 miles; nine locks, 118 by 22½ feet, with 7 feet of water on the sills; total rise, 74 feet.

OPERATION.

The Chambly canal was opened to navigation on the 29th April, and closed on the 1st December, 1915.

REPAIRS AND RENEWALS.

No special repair work was done here during the last fiscal year.

BEAUHARNOIS CANAL.

This canal has been under lease to the Canadian Light and Power Company since 1907, and is no longer under the direct control of the department. Some works connected with it are, however, still maintained by us.

REPAIRS.

Hungry Bay dyke.—The dyke proper and the stone walls protecting it against the erosive action of lake St. Francis have been kept in good order, but no expenditure was made in repairing the road on top of the dyke, although this road is beginning to be seriously worn out in places.

Bridge across the Lost Channel at St. Timothy.—The necessary lumber required to partly renew the flooring of this bridge was purchased during the winter, but it had not been put in place at the end of the last fiscal year.

QUEBEC CANALS—INCOME.

Protection walls along shores of lake St. Francis.—The only work done under this item of the appropriations during last year was the filling of a few gaps in the wall in front of the Ste. Barbe dyke, on the south shore, and the raising of some low sections of the protection wall near St. Zotique, on the north shore.

Concrete facing dam at Valleyfield.—This work was built under contract by the Carlton Construction Co., Ltd., of Ottawa. Operations were begun on the 18th June, 1915, and the work was fully completed by the end of the following October.

It consists of cribwork foundation, 475 feet long, placed about 10 feet from the westerly face of the old dam and brought up to a line about 12 inches below the level of low water. On top of this cribwork, a concrete wall was built, the top of which was made level with the existing wharf. At the north end of cribwork, the concrete wall was started and carried to a point 200 feet farther, the total length of the facing being 675 feet.

Surveys and inspections.—As usual, numerous inspections were made in connection with claims, leases, etc., necessitating reports and the preparation of plans.

A few photographs to accompany the present report will be forwarded in a few days.

I have the honour to be, sir,

Your obedient servant,

ERNEST MARCEAU,

Superintending Engineer, Quebec Canals.

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LACHINE CANAL.

STATEMENT showing the depth of the river water on the mitre sills of new Lock No. 1, at the lower entrance, and new Lock No. 5, at upper entrance, during the fiscal year ending March 31, 1916.

Months.	New Lock No. 1 Lower Sill.		New Lock No. 5 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	31 4	15 5	16 3	15 0
May.....	17 11	15 5	16 6	15 8
June.....	16 0	14 5	15 7	15 1
July.....	15 0	13 9	15 4	14 8
August.....	14 10	13 5	15 6	14 1
September.....	14 5	13 9	15 9	14 8
October.....	14 5	13 8	15 1	14 7
November.....	13 11	13 4	14 11	13 11
December.....	14 4	13 2	14 7	14 0
1916.				
January.....	31 1	15 10	16 9	15 1
February.....	31 0	28 4	16 7	14 5
March.....	29 4	25 0	16 9	14 0

SOULANGES CANAL.

STATEMENT showing the depth of the river water on the mitre sills of Lock No. 1, at lower entrance, and Lock No. 5, at upper entrance, during the fiscal year ending March 31, 1916.

Months.	Lock No. 1 Lower Sill.		Lock No. 5 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	18 0	17 0	16 4	16 0
May.....	18 2	17 6	16 3	16 0
June.....	17 6	17 3	16 1	15 9
July.....	17 3	16 7	16 1	15 9
August.....	17 2	16 7	16 4	15 6
September.....	17 0	16 6	16 3	16 0
October.....	16 9	16 3	16 1	15 9
November.....	16 6	16 3	16 1	15 2
December.....	17 1	16 2	15 9	15 6
1916.				
January.....	18 8	17 4	16 8	15 7
February.....	20 9	18 6	16 9	16 1
March.....	22 9	20 3	17 2	15 8

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CHAMBLY CANAL.

STATEMENT showing the depth of the river water on the mitre sill of Lock No. 9, at lower entrance, and Lock No. 1, upper entrance, during the fiscal year ending March 31, 1916.

Months.	Lock No. 9 Lower Sill.		Lock No. 1 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	12 7	11 2	9 11	8 9
May.....	12 4	10 4	9 11	8 5
June.....	10 5	9 2	8 7	7 4
July.....	10 6	10 0	8 1	7 8
August.....	10 3	9 9	7 11	7 5
September.....	9 10	8 8	7 10	7 1
October.....	9 8	8 8	7 8	6 2
November.....	9 2	8 7	7 8	6 10
December.....	9 3	7 11	8 1	7 2
1916.				
January.....	12 1	9 2	9 2	7 11
February.....	13 1	11 4	9 5	8 11
March.....	15 11	11 5	9 5	8 10

ST. OURS LOCK.

STATEMENT showing the depth of the river water on the mitre sills of the St. Ours Lock during the fiscal year ending March 31, 1916.

Months.	Lock No. 1 Lower Sill.		Lock No. 1 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	12 2	10 2	10 8	9 9
May.....	13 0	9 3	10 7	9 1
June.....	9 10	7 10	10 0	8 5
July.....	8 7	6 8	10 1	9 10
August.....	7 6	6 3	10 0	9 5
September.....	7 0	6 4	9 6	8 8
October.....	7 6	6 0	9 3	8 9
November.....	6 7	5 7	9 5	8 6
December.....	7 7	5 11	9 2	7 5
1916.				
January.....	10 9	8 0	9 2	8 1
February.....	11 9	9 4	10 0	8 11
March.....	14 4	9 4	11 5	9 0

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CARILLON CANAL.

STATEMENT showing the depth of the river water on the mitre sills of Lock No. 1, at lower entrance, and Lock No. 2, at upper entrance, during the fiscal year ending March 31, 1916.

Month.	Lock No. 1 Lower Sill.		Lock No. 2 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	14 10	11 11	14 5	10 8
May.....	15 7	14 8	15 3	14 2
June.....	14 8	13 9	14 3	13 1
July.....	14 2	12 3	13 6	11 4
August.....	12 10	12 3	12 2	11 5
September.....	12 8	11 9	12 0	11 2
October.....	12 9	12 0	12 1	11 7
November.....	12 4	11 10	11 7	11 4
December.....	12 4	11 10	12 7	11 2
1916.				
January.....	13 5	12 4	16 0	12 5
February.....	14 0	13 0	16 4	13 3
March.....	14 8	13 3	15 6	11 11

GRENVILLE CANAL.

STATEMENT showing the depth of the river water on the mitre sills of Lock No. 3, at lower entrance, and Lock No. 7, at upper entrance, during the fiscal year ending March 31, 1916.

Months.	Lock No. 3 Lower Sill.		Lock No. 7 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April....	17 8	13 0	15 3	10 7
May.....	18 8	17 6	16 4	15 2
June.....	17 6	15 11	15 1	13 9
July.....	16 4	13 10	14 2	11 4
August....	14 7	13 5	12 3	11 1
September..	14 4	13 3	12 0	10 11
October....	14 7	13 11	12 3	11 5
November..	13 11	13 6	11 6	11 2
December..	15 6	13 7	11 7	11 0
1916.				
January..	18 8	14 6	12 3	11 1
February..	19 10	16 1	12 8	11 5
March.....	19 9	14 7	13 6	11 3

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STE. ANNE'S LOCK.

STATEMENT showing the depth of the river water on the mitre sills of the Ste. Anne's Lock, at the lower and upper entrance, during the fiscal year ending March 31, 1916.

Months.	Lock No. 1 Lower Sill.		Lock No. 1 Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1915.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
April.....	11 4	10 2	13 1	10 7
May.....	11 7	10 11	13 10	13 0
June.....	10 11	10 5	13 0	12 2
July.....	10 7	9 9	12 6	10 11
August.....	10 6	9 6	11 6	10 9
September.....	10 3	9 9	11 3	10 7
October.....	10 2	9 9	11 4	10 10
November.....	9 11	9 4	10 11	10 8
December.....	10 1	9 3	11 0	10 9
1916.				
January.....	12 0	10 6	11 6	10 11
February.....	11 10	10 4	11 10	11 2
March.....	11 7	10 3	12 3	11 6

QUEBEC CANALS.

STATEMENT giving dates of opening and closing of the Quebec Canals during the fiscal year 1915-16.

Canals.	Opening.	Closing.
Lachine Canal.....	April 22, 1915.	Dec. 13, 1915.
Soulanges Canal.....	April 20, 1915.	Dec. 13, 1915.
Chambly Canal.....	May 1, 1915.	Dec. 1, 1915.
St. Ours Canal.....	April 17, 1915.	Dec. 2, 1915.
C. & G. Canal.....	April 21, 1915.	Nov. 27, 1915.
Ste. Anne's Canal.....	April 19, 1915.	Dec. 3, 1915.

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REPORT OF THE SUPERINTENDING ENGINEER, ONTARIO-
ST. LAWRENCE CANALS.

CORNWALL, April 1, 1916.

SIR,—I have the honour to submit my annual report on the operation and maintenance of the Ontario-St. Lawrence canals for the fiscal year ending March 31, 1916.

The Ontario-St. Lawrence canals comprise the Cornwall canal, the Farran's Point, Rapide Plat, and Galops canals, known collectively as the Williamsburg canals, the north channel on the river St. Lawrence below Prescott, and the Murray canal extending from the head of the bay Quinte to Brighton bay, on the north shore of lake Ontario.

CORNWALL CANAL.

Length, $11\frac{1}{2}$ miles; total rise, 48 feet; six locks, 270 feet by 45 feet, with 14 feet of water on sills, and one pair of guard gates directly above lock No. 20, at the foot of the summit level.

OPERATION.

The Cornwall canal was opened for the season's navigation on April 15 and closed on December 11, and was operated throughout the season without any serious accident or damage to locks or other structures, and without any delay to navigation.

Navigation was seriously hampered by the extreme low water which prevailed in the river throughout the entire season, and many of the larger vessels were loaded to slightly less than the usual 14 feet, as a measure of safety.

The average depth of water on the upper sill of the guard lock at the head of this canal during the season of navigation (May 1 to November 30) for the three lowest recorded years was as follows: 1895, 14.84 feet; 1911, 15.14 feet; 1915, 15.10 feet.

In 1895 the highest average during the season of navigation was for the month of May, the water showing a steady fall till November, the month of lowest average. In 1911 the highest average was in May and June, which showed exactly the same, and the lowest in October and November, also exactly the same, with a steady drop between June and October.

In 1915, however, the highest average was for the month of September, while the lowest average was recorded for the month of June, the months of October and November showing a higher average than the months of June and July, which ordinarily show the highest averages.

RENEWALS AND REPAIRS.

While the canal was unwatered, previous to the opening of navigation, the old gates, timber platform and mitre sills at the head of old lock No. 18 were removed and a concrete dam, surmounted by a reinforced concrete service bridge, was constructed across the lock in the upper recess.

Old locks Nos. 18, 19 and 20 are now permanently closed to navigation in this manner.

Concrete abutments, designed to carry a steel highway bridge over the headrace to the mills at the foot of the canal, were constructed directly north of old lock No. 17.

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The coping stones on north wall of guard gates above lock No. 20, which were badly displaced, were lifted and reset and a new concrete hollow quoin coping with steel face was constructed in place.

About 500 lineal feet of stone protection on the north bank below lock No. 18 was rebuilt and faced with concrete, and the upper portion of bank trimmed and sodded.

Necessary pointing was done at locks Nos. 19 and 20.

All of the standing lock gates on the canal received one coat of paint, and the operating machinery and valves in both lock gates and supply weirs were thoroughly overhauled and repaired and machinery painted. The lock bottoms were also thoroughly cleaned of gravel and small stones.

On April 15 the upper gates in lock No. 15 were removed for repairs and replaced with a pair of spare gates. On the following day the south lower gate in lock No. 17 was taken out, upset, a broken step removed and replaced with a new one, and the gate resteped.

During the season the old wooden bridges over the weirs at old lock No. 17 (68 feet in length), at the guard gates above lock No. 20 (117 feet in length), and the large offtake weir at the foot of Sheik's Island (154 feet in length), as well as the timbers carrying the valve machinery, all of which were badly decayed, were removed and the whole rebuilt in reinforced concrete. The new structures, besides being permanent, present a very neat and workmanlike appearance.

The old wooden floor on the highway bridge over the offtake weir at the foot of Sheik's island (154 feet in length), with a roadway 9 feet in width, which was badly decayed, was removed and rebuilt in reinforced concrete, and at the same time the roadway was widened to 11 feet.

Three cast-iron mooring posts (small size) set in concrete bases, were placed at the lower end of the repairing basin, five (standard size) in the vicinity of old lock No. 17 at the head of the basin, five on the south bank directly east of lock No. 19, five on the south bank directly east of lock No. 20, three on the south bank west of the guard gates, and four on the south bank west of guard lock No. 21.

The coping of the southeast retaining wall below lock No. 20 (284 feet in length) was lifted, reset, and reinforced behind with concrete.

The coping stones in this wall were all pushed out of place, and a large number of them, as well as some of the stones in the course below, were broken. Some of the broken stones were redressed to a new face, others were replaced with new stones, and the whole of the coping was reset to a line 6 inches back from face of wall, the upper edge of the course below being chamfered off to meet the new line.

Extensive repairs were made to the stone protection to banks and 1,600 lineal feet on the south bank eastward from lock No. 20 was completely relaid.

The scows, derrick, stone crusher, and other floating plant received necessary repairs and were kept in good condition. Extensive repairs were also made to the hull and boiler of steamer *Alert*, both of which have had thirty years of service.

The old upper gates removed from lock No. 18 when concrete dam was constructed across this lock, and for which there was no further use, were placed in the repairing basin, taken apart, and the sound timber sawn into plank and placed in stock.

A single-span steel highway bridge, 58 feet in length, was erected over the head-race to mills directly north of old lock No. 17. The bridge was constructed and delivered in sections by the Hamilton Bridge Works Co., Ltd., under contract, and the work of assembling and erecting was performed by the repair staff.

This bridge provides a direct and convenient access to repair shops and yard from the public thoroughfares, and also furnishes direct communication with our service ground on the north side of the raceway.

Extensive repairs and changes were made to the stores building and a much needed addition, 26 feet by 38 feet, was erected. These improvements add materially to the floor space and permit of a much better arrangement and classification of supplies and stores.

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The gates removed from lock No. 15 in April were placed in the repairing basin, thoroughly overhauled, repaired, and painted, and are held in reserve as spare gates.

During the winter a new scow, 18 feet by 70 feet, was built to replace a very old scow which was past repairing. This scow is now being caulked and will shortly be ready for launching.

The unfinished attic in the office was ceiled throughout and fitted with cupboards and drawers for the fying of old reports, pay-lists, and records of all kinds.

A room for the proper arrangement and storage of patterns, of which we have a large number, was fitted up in one end of the large machine shop.

Owing to the extremely low water prevailing in the river, it was decided by the department to remove the 18-inch coping from the breast wall of the supply weir at the head of the canal in order that the usual supply of water might be admitted to the canal during the low-water stage.

This was accordingly done in the month of May, and proved a great help to the manufacturing interests taking water from the canal, as in spite of the low water it was possible, with this added flow, to maintain sufficient depth of water on the sills to provide for navigation and also allow the mills to operate at their full capacity throughout the entire season.

The overflow openings, formed by the removal of the coping of breast wall, were fitted with stop-logs, which are kept down when the water is at a stage to allow a sufficient supply to be admitted through the valves.

The grounds and flower beds at the various locks and parks along the line of canal were kept in first-class shape and presented a very attractive appearance throughout the whole season.

In order to better provide for this class of work, a small greenhouse, 20 feet by 50 feet, for the propagation of plants, together with a brick boiler-house and workshop, 18 feet by 22 feet, were constructed near the Cornwall shops, both on concrete foundations. In future all of the plants required throughout this district will be supplied from this source. The materials in these buildings, with the exception of the glass and frames, were supplied out of stock long on hand, as was also the boiler and a large part of the pipes for heating.

Ordinary repairs to lock gates, fences, banks, and stone protection were promptly attended to, as well as the cleaning of ditches, cutting of weeds, etc.

THE WILLIAMSBURG CANALS.

Farran's Point Canal.—Length, $1\frac{1}{2}$ miles; total rise, 4 feet; one lock 800 feet by 50 feet.

Rapide Plat Canal.—Length, $3\frac{1}{2}$ miles; total rise, $11\frac{1}{2}$ feet; one lift and one guard lock, each 270 feet by 45 feet.

Galops Canal.—Length, $7\frac{1}{2}$ miles; total rise from 15 feet in high-water periods to $18\frac{1}{2}$ feet in low-water periods; one lift lock, 800 feet by 50 feet; one guard lock, 270 feet by 45 feet; also one lift lock 326 feet by 45 feet, near the head of the canal, for the passage of vessels around the Galops rapids.

The Williamsburg canals opened for the season's navigation on April 15, and closed on December 11. They were operated throughout the season without serious damage or delay to navigation.

Accidents.—On June 1 the steamer *Neepawah*, belonging to the Canada Steamship Lines, Ltd., while downbound and trying to make the upper entrance to the Rapide Plat canal without turning above the entrance, struck the north upper gate of lock No. 24, which was against the wall, breaking a suspension bar and seriously damaging the upper portion of the gate. The water in the river being low, I was able to raise

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the water in the canal to meet it, and thus allowed the passage of vessels through the lock while temporary repairs were being made, by merely opening the lower gates. The delay to navigation was only about three hours.

The cost of making repairs was defrayed by the owners of the vessel.

RENEWALS AND REPAIRS.

Farran's Point Canal.—About 700 lineal feet of stone protection on the north side of canal near the upper entrance was rebuilt.

The circular end of the masonry retaining wall on the south side of the lower entrance to lock was rebuilt.

About 25 feet of the outer end of this wall, which rests on timber cribwork, had broken off and fallen into the river several years previously, due to the fact that scour had caused the outer crib to settle at the outer end. As there was no appearance of further settlement, the top of the cribwork was levelled up with concrete, and the masonry wall rebuilt, but about 8 feet shorter than the original wall.

The cut stones used in this work were those taken from the breast wall of weir at lock No. 21.

Rapide Plat Canal.—About 3,500 lineal feet of stone protection on the outside bank was completely relaid and the bank trimmed, 500 lineal feet was also relaid on the north side of canal.

Eight cast-iron mooring posts set in concrete bases were placed in the vicinity of the canal shops at Morrisburg.

The north upper gate of lock No. 24, damaged by steamer *Neepawah* on June 1, was removed, taken to the repair yard, thoroughly overhauled and repaired and resteped in position, a spare gate being placed in position in the meantime.

New top corbels, or heel blocks, were placed on the lower north gate at lock No. 23.

Galops Canal.—Some 4,500 lineal feet of stone protection on the south bank below Presqu'île was completely rebuilt and the top face of bank graded. About 900 lineal feet was also relaid on the north side of canal at the same point.

A 2-foot by 4-foot concrete box culvert, 12 feet long, was built in the ditch at the entrance to the canal service grounds west of lock No. 25 at Iroquois.

One cast-iron mooring post, set in concrete base, was placed opposite the upper gates at lock No. 25.

The lower gates at lock No. 27 were taken out and replaced with a spare pair, the gates removed being sent to the repair yard at Morrisburg, hauled out on ways and repaired.

An 18-inch corrugated galvanized iron culvert, 36 feet long, with concrete wing walls, was built across the highway, opposite the west end of the "deep cut" at Cardinal, replacing an old wooden box culvert.

The work of pointing the masonry walls around locks Nos. 27 and 28 was completed, and the work of pointing the piers and abutments at the Cardinal bridge was commenced.

A large watering-place, accommodating two farms, at the north channel, commenced the previous season, was deepened and completed during the low-water stage in river.

GENERAL.

All of the buildings, weirs, and standing gates along the canals received one coat of paint.

Ordinary repairs to lock gates, buildings, bridges, weirs and banks were promptly attended to, as well as the cleaning of ditches, cutting of grass, weeds, etc.

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The grounds around all of the locks are being gradually levelled up, mulched, and seeded. The flower beds were neatly kept and a large number of small trees and shrubs were planted at various places along these canals.

Owing to the extreme low water prevailing in the river, it was necessary for down-bound vessels, drawing more than $13\frac{1}{2}$ feet, to make use of the Rapide Plat canal throughout the entire season.

The upper entrance to this canal is not safe for the approach of vessels of the larger class, as I have frequently reported.

Vessels of this class, entering the canal from above, are obliged to make a wide turn into the bay above the entrance and come to a full stop alongside of the shore, and head up stream. After putting out lines, they are again obliged to turn around before they can approach the lock.

The whole manœuvre, to be successfully accomplished, depends largely on the good judgment of the pilot in charge, and vessels are sometimes carried around the head of the south entrance pier, and have difficulty in getting back.

Even when the entrance is successfully negotiated, a great deal of time is lost.

The following vessels, attempting to make this entrance, were carried around the entrance pier during the season, but fortunately sustained no serious damage. Some were able to get back under their own steam, others had to anchor and wait the assistance of tugs:—

Steamers *Algonquin*, May 1; *Haddington*, June 10; *Chas. Beatty*, June 20; *F. P. Jones*, June 28; *Keywest*, June 29; *Westerian*, July 15; *Steelton*, November 27; *Turret Cape*, December 3.

Altogether, 617 lockages of large vessels, downbound, were made at this lock during the season.

MURRAY CANAL.

Length of canal proper, $5\frac{1}{2}$ miles; including dredged entrances, 10 miles; no locks; depth of water, 11 feet at low-water stage, lake Ontario.

The canal was opened for the season's navigation on April 15, and closed December 8, and was operated throughout the season without accident or serious delay to navigation.

The prevailing low water in lake Ontario was the cause of a good deal of inconvenience, and some delay, to vessels of the larger class using this canal. On April 25, the steamers *Stanstead* and *Byron Whitaker*, westbound, grounded in the canal a short distance east of the Brighton Road bridge, and were detained about twenty-four hours before being released.

Both vessels were light and drawing $12\frac{1}{2}$ feet of water.

On July 10 last, while the Central Ontario Railway bridge was being closed after the passage of a vessel, and before the bridge was locked, a passenger train from Trenton going south ran past the semaphore and failed to stop till the engine had reached the south end of the bridge.

The damage to bridge consisted of the displacement of the levelling pieces under the turntable track and the breaking of the two cast-iron boxes supporting the rollers at south end of bridge. The necessary repairs were made by the railway company.

The semaphores were properly set, and no blame was attached to canal employees.

RENEWALS AND REPAIRS.

All of the buildings on the canal received one coat of paint.

The cistern at the bridgemaister's house at the Central Ontario Railway bridge, which was in a bad state of repair, was put in good condition and the kitchen slightly enlarged to cover it.

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One of the concrete piers at the west end of canal, badly eaten away at water line, was repaired with concrete.

Masonry in all bridge piers and abutments was pointed where necessary, and broken and rotten timber walings were removed and new ones put on.

All necessary repairs were made to bridges, stone protection to slopes, banks and roads, and all catch-water ditches were kept clean and in good repair, grass and weeds were cut, and the banks generally were kept clean and neat.

About 2,800 lineal feet of the top of the north bank, which is used as a public highway, was gravelled.

During the winter, a boathouse belonging to the canal and situated at the west entrance, and for which there was no use as a boat-house, was removed to a location just east of the Central Ontario Railway bridge, slightly enlarged, and is now used as a storehouse for our stock of ties for the floor of this bridge.

Attached to this report are statements of fines and damages collected during the year, and a record of the highest and lowest water in river at each of the canals.

I have the honour to be, sir,

Your obedient servant,

C. D. SARGENT,

Superintending Engineer.

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STATEMENT of fines and damages in connection with "Ontario-St. Lawrence Canals," for the year ending March 31, 1916.

CORNWALL CANAL.

Lock.	Date.	Name of Vessel.	Damage.	Fine.	Name of Owner.	Remarks.
15 15	1915. Oct. 31 Nov. 28	Steamer City of Hamilton. Barge Barma.	\$12 26	\$10 00	Canada Steamship Lines. Montreal Transportation Co.	Paid Jan. 15, 1916. Paid Dec. 22, 1915.
WILLIAMSBURG CANALS.						
24	June 1	Steamer Neepawa.	\$406 73		Canada Steamship Lines.	Paid July 16, 1915.

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REPORT OF SUPERINTENDING ENGINEER, ST. PETER'S CANAL.

CORNWALL, April 1, 1916.

SIR,—I have the honour to submit my annual report on the St. Peter's canal for the fiscal year ending March 31, 1916.

By an Order in Council, dated March 28, 1915, authority was given for the closing of this canal "during the forthcoming season of navigation to permit the works of construction now under way being proceeded with."

At the usual time for the opening of navigation, vessels from different points commenced to arrive expecting to pass through the canal as in former years.

Between the 13th of April and the 8th of June, there were passed through the canal, 71 registered vessels and 80 unregistered, the latter consisting chiefly of fishing boats and other small craft measuring from 2 to 10 tons burthen.

Although the canal was officially closed on March 28, it was not actually closed by the contractor's operations till the 8th of June, and these vessels were only passed through after assurance had been given by the contractor that their passage would not interfere with his work.

IMPROVEMENTS.

The works of improvement, as designed, consist of the construction of a new lock and entrance at the Atlantic end of the canal.

The work, which is under contract with Mr. W. H. Weller, of St. Catharines, Ont., was commenced on May 4, 1912, and was carried on throughout the seasons of 1912, 1913, and 1914. Operations for the season of 1915 were resumed on April 6, and have since been continuously carried on.

The month of April was consumed by the contractor preparing site at the south end of canal for gravel and concrete mixing plant, moving this plant from the north end of canal, where it was situated the previous season, laying tracks, building shops, ditching, building cribs for cofferdams, overhauling and repairing plant, and preparing generally for the season's work.

Rock drilling operations were also carried on in the lock pit.

On April 27, a gravel supply outfit, consisting of a tug, two scows, and one "clam shell" dredge, arrived, and on the 29th commenced delivering gravel from beaches in St. Peter's bay, and continued this work till completed on August 16, about 18,000 cubic yards having been delivered.

Dredging operations, in the canal north of old lock, were carried on from May 12 to June 21, when this work was stopped, as it could not be prosecuted to advantage in the limited area in which the plant was obliged to work.

On June 8, a crib to be placed across the Atlantic entrance to the old lock, to form a backing for an earth cofferdam, and the work of filling the crib and forming the cofferdam was commenced. On July 2, the two cribs to form a cofferdam at the lake entrance were placed in position, and the earth-filling was commenced.

On July 21, both cofferdams being considered safe by the contractor, the work of pumping out the canal was commenced. On July 25, during high tide in St. Peter's bay, the cofferdam at the Atlantic entrance failed, flooding the canal, which was then about half unwatered, and upsetting and badly damaging the outer lower pair of lock gates.

This cofferdam was then rebuilt as an earth dam, with heavy stone protection on the outer face, and has answered the purpose satisfactorily.

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On August 9, the work of pumping out the canal the second time was commenced, and by August 20, the contractor was able to start excavation for the foundation of concrete entrance walls, as well as commence the work of removing the old lock bottom, mitre sill platforms, etc., in the old lock.

The work of building the concrete entrance and lock walls was commenced on September 13, at the head of the east wall of old lock, and this work was carried on without intermission till February 7, when all the walls being completed, with the exception of portions of the hollow quoin abutments and a portion of the west wall of the lock at the upper end, about 80 feet in length, the work was closed down on account of severity of the weather.

The rock excavation, necessary to the construction of these walls, was carried on in advance of the building, and the amount of concrete placed from month to month was governed by the progress made with the rock excavation.

The quantity of concrete placed, during the above period, was about 10,200 cubic yards and 11,840 barrels of cement were used.

The four upper lock gates were removed from the old lock, placed on ways in the bottom of canal, and considerable work has been done on them, removing and replacing damaged parts, placing new binders, cutting and trimming quoins, etc.

All of the cast-iron mooring posts have been delivered, and a few have been set in the concrete walls.

The steel I-beams for the M.S. anchorages, oak timber for mitre sills and reinforcing steel for concrete cribs have been delivered.

Considerable delay was occasioned by the breaking of the cofferdam at the Atlantic entrance in July last, but on the whole fair progress has been made with the work, though the winter work was carried on under great disadvantage, owing to the severity of the weather and the frequency of snowstorms.

Both of the dams are in good condition and no difficulty has been experienced in keeping the canal pumped out.

The principal items of work yet remaining to be done are: The completion of concrete lock walls, the placing of concrete lock floor, mitre sills, anchorages, and cut-off trenches, the removal and rebuilding of a portion of the east wall of old lock, the construction and placing of a line of concrete cribs, about 300 feet in length, on the west side of the Atlantic entrance, the removal of the balance of the west wall and floor of old lock, the repairing and resteping of lock gates, the dredging out of cofferdams and the trimming and sodding of the high upper slope above lock coping level.

The contractor maintains that he will have the canal ready for navigation sometime in August of this year, and the whole of the work completed before the end of 1916.

Under favourable conditions as to weather and labour, he may.

I have the honour to be, sir,

Your obedient servant,

C. D. SARGENT,
*Superintending Engineer,
Ontario-St. Lawrence Canals.*

REPORT OF SUPERINTENDING ENGINEER, RIDEAU CANAL.

OTTAWA, April 1, 1916.

SIR,—I have the honour to submit herewith my report on the Rideau canal, for the fiscal year ending March 31, 1916.

Navigation opened at Ottawa on May 1, 1915.

Navigation opened at Kingston Mills on May 1, 1915.

Navigation closed at Ottawa on November 29, 1915.

Navigation closed at Kingston Mills, November 29, 1915.

As I stated in my last report, the prospects at the time of writing (April 1) of filling Rideau lake up to its usual spring height (8 feet 6 inches on the upper sill of Poonamalie lock) were exceedingly poor, and I regret to have to report that my fears proved correct, and that for the first time in the history of this canal, Rideau lake failed to fill in the spring.

The water only reached a depth of 5 feet 11 inches on the upper sill of the above-mentioned lock, as there was practically no freshet at all last spring, so that we were confronted with the prospect of a season of navigation with our only reservoir of water between Smith's Falls and Ottawa, over 30 inches below its usual height at the beginning of the season.

This was not a mere local condition, as all the rivers and lakes, in this part of the country anyway, were far below normal height as a result of similar causes.

However, as things turned out, the rainfall last summer was fairly constant, and the lake only fell to 5 feet 7 inches on the lock sill by the last day of June.

By the end of July it had fallen to 5 feet 2 inches, after which it began to rise again, and at the end of August it had recovered to 5 feet 7 inches. By the end of September it had fallen again to 5 feet 4 inches, and to 5 feet 0 inches by the 31st October.

The water then continued to slowly fall until by the end of November, when navigation closed, there was only a depth of 4 feet 7 inches on the upper sill of Poonamalie lock.

In spite, therefore, of the unfavourable conditions under which navigation commenced, we maintained over 5 feet on the sill of the lock right up till the end of October, when the navigation season was, for all practical purposes, over.

I have given this matter of water supply to Rideau lake (and I may state that no trouble exists on the levels westward from this point) much study and consideration, and I have come to the conclusion that the simplest and cheapest way to remedy the trouble, is to deepen the channel from Poonamalie lock out to deep water.

This could be done from year to year (without any very special appropriation being provided), by blasting the shoals that obstruct the flow from the lake, and removing the rock by our own dredges during the season of navigation.

When the upper lock gates at Poonamalie are worn out, the sill can be lowered 30 inches and a correspondingly higher pair of gates put in; and the cut itself can be deepened during the winter, year by year, out of our ordinary "repairs" appropriation.

If the outlet is thus deepened, say 2 feet 6 inches to 3 feet, I think no more trouble will ever be experienced in this respect, as then there will be ample depth for navigation, and plenty of surplus water for manufacturing purposes, even in seasons of lowest water.

The whole of the above could be done in two seasons, three at the outside.

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The total number of lockages throughout the whole canal during the season of 1915 was 40,378, showing a slight decrease from 1914.

This decrease appears from the lockage returns to be fairly equally distributed throughout the various lock stations from one end of the canal to the other.

The principal works and repairs carried out along the line of the canal during the past fiscal year, were as follows:—

Ottawa Lock Station (8 locks and 1 basin).—The chamber walls of lock No. 5 were taken down and rebuilt in concrete, the coping being laid in cut stone. Four courses of the gate piers were taken down and rebuilt in cut stone. Four of the gate and sluice crabs were taken up and re-set in concrete beds, the old timber frames on which they were originally placed having rotted out. About 250 feet of the timber wharf on the south side of the basin was taken down and rebuilt; and 80 feet of the wharf near Laurier Avenue bridge which had been burned through spontaneous combustion of a pile of coal lying thereon, was also rebuilt, the cost of the same being refunded to the department by the Imperial Realty Company, who owned the coal. The lock masonry in general was pointed and grouted where required. The usual repairs were made to the roadways round the basin wharves, and sundry small repairs to the station in general.

During the month of April last, an additional 100 feet of concrete wall was built at the south end of the long wall completed the previous month on the west side of the deep cut; and in this addition to the said wall, a boat landing with steps leading to the driveway, was built.

Also the prism of the canal between Bank Street bridge and Bronson Avenue bridge was excavated by scrapers and teams, and the material deposited on the slope of Dows Lake dam, thus making a fine wide channel of what had been a narrow shallow cut, and at the same time widening and strengthening the dam in question, the roadway on top of which was widened about 10 feet.

Ottawa East Bridge.—Sundry small repairs were made to the approaches of this bridge.

Bronson Avenue Bridge.—A new floor was laid on the swing span of this bridge.

Hartwells Lock Station (two locks and one bridge).—The bridge across the bywash was taken down, and a new span erected in its place, the old timber cribs being also removed and replaced with concrete walls, which act as bridge seats as well as retaining walls for the banks. An iron handrail was placed at each end of the bridge on the concrete walls. The superstructure of the waste weir was taken down and renewed. The dry walling on the side of the cut was continued for a distance of about 450 feet. A new lay-by pier, 185 feet long, was built immediately below the lower lock. The roadway along the canal bank was raised, graded, and macadamized from the waste weir up to the next lock station above, a distance of about a mile and a quarter. This finishes what is known as the towpath road, and it is in excellent shape throughout its entire length, from Bank street bridge to Hogsback, a distance of over 3 miles. Sundry other small repairs were made to the station in general.

Hogsback Lock Station (two locks and one swing bridge).—The chamber wall on the east side of the lower lock was taken down, and rebuilt in concrete with cut-stone coping. Both centre gate piers, recesses, and recess piers were taken down and rebuilt in cut-stone. Repairs were made to the dry walling along the side of the cut below the locks, and also at each end of the swing bridge. The centre mitre sill was taken

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down and relaid in concrete with steel facing. The centre lock gates were taken down and renewed. A new lay-by pier 160 feet long was built above the upper lock, and an addition, 50 feet long, was added to the pier below the locks.

Portion of the old stone dry wall at the waste weir, which had fallen down, was rebuilt in concrete. Some new pine flooring was laid on the bulkheads, and sundry small repairs were made to the station in general. The cut below the locks was partially dredged last season by our dredge *Tay*, the material excavated being taken in dump scows and deposited against the retaining dam.

Black Rapids Lock Station (one lock).—The western masonry wall of the waste weir gave way last season, and this winter it was taken down, and rebuilt in concrete. Small repairs were made by our diver to the lock sluices, and sundry small repairs were made to the station generally.

Long Island Lock Station (three locks and one swing bridge).—One pair of lock gates was renewed. The long bulkhead across the back channel at Manotick was taken down and rebuilt. The old boom across the head of the island was taken up and replaced by a new three-stick boom, 250 feet long.

Some additional piles were driven at the head of the by-wash at the locks, and this finishes this work, which has been done from time to time. The usual small repairs were made to the station in general.

Manotick Bridge.—Repairs were made to the timber piers of this bridge.

Wellington Bridge.—No repairs were made to this bridge.

Becketts Landing Bridge.—The fixed spans of this bridge were repaired, the repairs consisting of new joists, planking, and guard rails.

Burritt's Rapids Lock Station (1 lock and 1 bridge).—Some clay and gravel were placed against the retaining dam to staunch the leakage, by our dredge *Tay*, and sundry small repairs were made to the station in general.

Nicholson's Lock Station (2 locks and 1 swing bridge).—One pair of lock gates was renewed. The north approach to the swing bridge across the upper lock was taken down and rebuilt; and the swing span itself was jacked up, and a concrete pier put under it. Two stoplog lifters were framed and erected. The lockmaster's house was extensively repaired and remodelled. Our dredge *Tay* deposited a considerable quantity of clay on the retaining dam, thus checking much of the leakage. Sundry other small repairs were made to the station in general.

Clowes Lock Station (1 lock).—A new lay-by pier, 140 feet long, was built above the upper lock on the north side of the river; and the old protection crib below the waste weir was partially rebuilt. Some new chain blocks were framed, and sundry other small repairs were made to the station in general.

Merrickville Lock Station (3 locks, 2 basins, 2 bridges).—The new concrete retaining dam has been completed, the department having last summer authorized the construction of the wall along the north bank of the river, without which the water could not have been raised to navigation level, except at a cost of flooding out part of the north end of the village. The work has been well executed by Mr. John O'Toole, the contractor, and on January 1, 1916, orders were received from the Honorary the Acting Minister, to raise the pond to navigation level and supply the Rideau Power Company with water, they have complied with the requirements of the department as called for in their lease, and having paid the first year's rental for the water. This company has built a concrete and brick power-house below the new dam, and also installed two 8-foot steel draught tubes through the same; but as yet they have only one electrical

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unit of 650 horse-power installed. This unit, however, is running very satisfactorily, and power and light have been furnished since January 1. The company, I understand, intend to instal the other unit shortly; and indeed it is to their own interest so to do, and with as little delay as possible, because they are required to pay the department for the full capacity of the head of water capable of being supplied, whether they use it or not. The whole dam is a fine substantial structure, and of permanent construction, so that outside of renewals of stoplogs at long intervals, there is not likely to be any further cost to the department in this connection. This dam effectually settles the question of loss of water at this station by leakage, and is a first-class asset to the department in every way, particularly when it is remembered that in thirty years it will have paid for itself in rentals received for power created by it.

Kilmarnock Lock Station (1 lock and 1 bridge).—The upper portion of the road bridge across the by-wash was rebuilt, as well as the small culvert bridge between it and the lock. Sundry small repairs were made to the station in general.

Edmond's Lock Station (1 lock).—Portion of the bottom of the chamber of the lock was concreted. A well was drilled to supply water to the lockmaster, and a new porch was built in front of the lock house.

Old Sly's Lock Station (2 locks and 1 bridge).—One new pair of lock gates was framed and placed in the upper lock. Two new sluice frames were placed in the upper lock. The waste weir bulkhead was rebuilt, and a new set of stoplogs framed for the same. The roadway across the dam was raised and graded. Small repairs were made to the swing bridge, and to the station generally.

Smith's Falls Combined Lock Station (3 locks, 1 basin, 2 bridges).—The basin dam was rebuilt and the foundation concreted. Two new steel channels were placed over the pivot of the swing bridge, to take the place of the old ones which had shown signs of failure. The front of McKenzie's wharf was excavated, and a concrete core built inside for a length of 80 feet, to act as a cut-off to the leakage that poured through the seams of the rock. The result was most satisfactory, as the basin kept up fairly well after being filled, whereas formerly it was all we could do to fill it and keep it full for the passage of boats. Sundry small repairs were made to the station in general.

Smith's Falls Detached Lock Station (1 lock and 2 bridges).—Repairs were made to the lower sill of the lock. An iron-pipe railing was erected on top of the concrete wall below the lock. The joists and plank flooring of the fixed bridge across the waste channel were taken up and renewed. Some dredging was done above the lock, to complete the channel from the south side of the river. Sundry other small repairs were made in general.

Poonamalie Lock Station (1 lock).—The upper wing wall of the lock on the north side was taken down and rebuilt in cut stone, and portions of the south chamber wall of the lock were repaired. Some dry walling was built in the cut above the lock. Both the concrete aprons below the stoplog openings in the waste weir were concreted; and sundry small repairs were made to the station generally.

Beveridges Lock Station (2 locks and 1 bridge).—Small repairs were made to the sluices of the locks by our diver. Four new chain blocks were fitted and set in place. The cut between the piers below the lower lock was cleaned out by the dredge *Tay*, and a rock shoal also was blasted and removed. Sundry small repairs were made to the station generally.

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Perth Branch (1 basin and 4 bridges).—The work of removing the rock shoals in the Tay river between the town and Beveridges was completed last year, the rock being drilled and blasted and then immediately removed by our dredge *Rideau*. The work of rebuilding the basin wharves has been completed, about 150 feet having been taken down to water-line and rebuilt last year. The turntable of the swing span on Drummond street, having shown signs of failure, is being repaired by Messrs. James & Reid, of Perth. The work is not yet finished, but will be completed by May 1. The usual small repairs were made to the other three bridges, and also to the roadways, lawns, etc.

Bobs Lake Dam.—Our reservoir dam at the outlet of Bobs lake was rebuilt last summer in concrete, the old dam having been of timber. The new sill was lowered 12 inches so that we can now draw off a foot more water from the lake, which feeds the Tay branch of this canal, and also acts in a measure as a feeder to Lower Rideau lake.

Olivers Ferry Bridge.—No repairs were made here this year.

The Narrows Lock Station (1 lock and 1 bridge).—Two new stringers were placed between the piers below the lock; and sundry small repairs were made to the station in general.

Newboro Lock Station (1 lock and 1 bridge).—A new lay-by pier, 140 feet long, was built on the west side of the cut above the lock. The storehouse was shingled and small repairs made to the station generally.

Chaffey's Lock Station (1 lock and 1 bridge).—Both approaches to the swing bridge were rebuilt, and also the superstructure of the waste weir. The kitchen of the lock-labourer's house was re-shingled. One of the beacon piers in the lower level (lake Opinicon) was rebuilt, having been lifted and wrecked by the ice last winter. The work was done by contract with Mr. Thos. Simmons. Sundry small repairs were made to the station in general.

Davis's Lock Station (1 lock).—Small repairs were made to the lock house, and to the lock masonry. A new lay-by pier, 140 feet long, was built on the west side below the lock, and small repairs made to the station generally.

Jones's Falls Lock Station (4 locks, 1 basin and 2 bridges).—One pair of lock gates was renewed. Small repairs were made to the lock house. The little bridge below the waste weir was taken down and rebuilt on concrete seats. The bottom of the lower lock was cleaned out by our diver. Sundry small repairs were made to the station in general.

Brass's Point Bridge.—Extensive repairs were made here last winter. The steel spans were jacked up and the piers under them taken down and rebuilt from low water line. Both approaches were also rebuilt, and the entire floor was renewed with new joist, plank, and guard-rail.

Brewers Upper Mills Lock Station (2 locks, 1 basin and 1 bridge).—The walls of the upper lock were grouted and pointed, and the bottom of the lock was thoroughly cleaned out and concreted. A new roof was laid on the kitchen of the lock house, and sundry small repairs were made to the station in general.

Brewers Lower Mills Lock Station (1 lock and 1 bridge).—The swing bridge was replanked, and the approaches at each end were rebuilt. Small repairs were made to the lock house and to the station generally.

Kingston Mills Lock Station (4 locks, 1 basin and 2 bridges).—One pair of lock gates was renewed, and some new sluice frames supplied. The long bridge over the waste channel and the By Wash bridge were each replanked. Four hundred cubic

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REPORT OF THE SUPERINTENDING ENGINEER, TRENT CANAL.

PETERBOROUGH, May 16, 1916.

W. A. BOWDEN, Esq.,
Chief Engineer, Department Railways and Canals,
Ottawa, Ont.

SIR,—I have the honour to submit my annual report for the fiscal year ended the 31st March, 1916, covering the work of construction chargeable to "Capital" Trent Canal.

ONTARIO-RICE LAKE DIVISION.

This division extends from Trenton, on lake Ontario, to Rice lake, a distance of 56½ miles, a detailed description of which has been given in former reports.

For construction purposes the division has been divided into seven sections or contracts, the estimated value of which, as revised to date, is about \$5,100,000, on which there has been expended for work done and materials delivered up to the 31st March, 1916, the sum of \$4,817,237.48 or about 95 per cent of the estimated value of the seven contracts at their respective contract rates.

There are on the division, eighteen locks, fourteen dams, and nineteen bridges. The locks are all finished and ready for the lock gates. The latter have been stepped in the first seven locks above Trenton. The dams are fully completed with the exception of five sluices in the bottom of dam 10, Campbellford, which will not likely be completed until the high level G.T.R. bridge immediately above the dam is built.

There are nineteen bridges on the division, one of which is across dam No. 10. They are all built and in commission with the exception of two. The substructure of the Gilmour siding bridge below lock 1 is only partly built, and the high level bridge for the Grand Trunk at Campbellford has not yet been begun.

Section No. 1.—The contractors for this section, Messrs. Larkin & Sangster, fully completed the works embraced in their contract in December, 1913, and a final estimate for the contract amounting to \$1,106,883.45 was sent in to the department in February, 1915.

Section No. 2.—This section extends from Glen Miller to Frankford, and the contractors, Messrs Dennon & Rogers, have completed the work with the exception of about 7,500 yards of material above grade of submarine excavation which should be finished early this summer provided the contractors arrange for a dredge at an early date to come to Frankford to do the work. The material yet to be excavated lies in the upper end of the submarine channel above dam No. 6, and in the lower entrances of locks 4 and 5.

Section No. 3.—This section extends from Frankford to a point 3 miles west of Glen Ross. The work was let to the Canadian General Development Co., Ltd., who on the 9th February, 1914, assigned the work to Fred. A. Robertson & Co. The latter, in the spring of 1914, built a small dredging fleet at Glen Ross for the purpose of completing the excavation on the section.

During the season of 1915 there was excavated about 45,600 cubic yards of material (all classes). There are approximately 64,000 yards of material (all classes) yet to be excavated. Unless the contractors employ two dredges during 1916 the work will not be completed this fall.

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Section No. 4.—This section extends from Adam's Landing, a point 3 miles west of Glen Ross, to Campbellford. The contractors for the work, Messrs. Haney, Quinlan and Robertson, have practically completed the work on the section with the exception of the dredging in Bradley bay.

All the locks, dams, and bridges between Bradley bay and Campbellford are finished with the exception of the bottoms of five sluices in dam 10, which will not likely be completed until the Grand Trunk high level bridge at Campbellford is built.

No work has yet been done towards the construction of a high-level bridge for carrying the Grand Trunk railway across the river. The contract calls for the placing of a bascule span in the present bridge, but as this was objected to by the railway company it has finally been decided to raise the bridge and roadbed on each side of it so as to give for the present a clear head room of 29 feet for navigation under the bridge.

Bradley Bay Dredging.—For the purpose of executing the dredging from the lower end of the section to lock 8 on Bradley bay, a slack water expansion of the river, the contractors arranged with their agents, Messrs. Russell, Jennings & Ross, to bring up the river early in July, 1915, three dredges, scows, tugs, etc.

The first dredge entered the river at Trenton on July 3, 1915, and reached the upper end of section 2, Frankford, on the 7th, where she was held up two days digging out a channel for herself through a bar that crosses the river at the end of the section. She reached Glen Ross lock on the evening of the 9th, and on the 10th and 12th was employed stepping the gates of the Glen Ross lock. She was locked through the lock on the 15th and began work in the channel near the upper end of Wilson's island on the 19th July. A few days later the other two dredges began work in the same neighbourhood. Between July and the end of November when the dredges were laid up for the season, they excavated approximately 94,000 yards. "There are about 125,000 yards yet to be excavated in the channel through the bay. If the three dredges do as much work per month as last season the dredging will be completed this fall. Dredging operations were resumed this year on the 18th April.

Section 5.—This section extends from Campbellford to Crow bay. The contractors, Messrs. Brown & Aylmer, fully completed the works embraced in their contract for the section on the 3rd September, 1915, and then laid up their dredging fleet at Campbellford pending the opening of the canal to lake Ontario, when they purpose taking it down the river.

The work done during the summer of 1915 was the completion of the dredging in the channel below lock 13, which they were unable to do until we raised the reach between locks 12 and 13 to normal navigation level on the 24th March, 1915, by the closing of dam No. 10. Since then we have constantly maintained the reach at about normal navigation level.

Owing to our not being able to raise this reach until the spring of 1915, dredging at this point could not be done by the contractors; otherwise this contract would probably have been finished in the fall of 1913 or earlier.

Section No. 6.—This section extends from Crow bay to Heeley Falls bridge. The contractors for this work, Messrs. Haney, Quinlan & Robertson, have practically completed the work with the exception of about 28,000 cubic yards of dredging, most of which is in the lower entrance of lock 15. They cannot do this work until dredges can be brought up the river.

In the event of the lock gates being stepped in locks 8 to 12 this summer, it is probable an effort will be made to have one of the spans temporarily removed from the Grand Trunk bridge at Campbellford for the passage through it of the pontoon gate lifter and a dredge. The gates would then be stepped in locks 13 to 17, which would

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enable the contractors to take a dredge up to Heeley Falls and complete their excavation there this autumn.

The Eastern Power Company's hydro-electric plant at Heeley Falls was shut down for about two-thirds of the year 1915, and when running at odd times, only carried a small load.

Section No. 7.—This section extends from Heeley Falls to Rice lake. The contractors, Messrs. Randolph Macdonald Co., Ltd., fully completed the works embraced in their contract on the 28th July, 1915. They immediately sent the balance of their dredging fleet and plant through the canal to Washago where it is now employed on their contract for section 3, Severn division.

A final estimate for the work, amounting to \$460,029.18, was sent in to the department on the 12th February, 1916.

During the summer of 1915 the engineering staff very carefully swept the river between the foot of Rice lake and Heeley Falls and placed a large number of spar buoys along the channel. This section of the river was transferred to the maintenance department of the canal on the 1st October, 1915.

BRIDGES.

Trenton Highway Bridge.—The swing span in the highway bridge situated at the mouth of the Trent river on Ferry street, formerly Dundas street, Trenton, Ont., was taken over in June, 1911, from the municipal corporation of the town of Trenton, in accordance with order in council dated 12th October, 1910; Trenton by-law No. 1019, 22nd May, 1911; and deed No. 19159, 5th June, 1911. A bridge tender for the swing span was appointed by the department in September, 1911.

The Trent river at this point is about 575 feet wide and from 14 to 18 feet deep. The bridge consisted of four 100-foot (covered) wooden spans, one wooden span of about 35 feet, and one swing span of about 130 feet. The five wooden spans rested on piers of cribwork, and the swing span on a pivot pier of stone masonry. The timber bridge was constructed in 1835 to supersede a ferry, and the swing span in 1887. The bridge originally belonged to the county of Northumberland, but was afterwards held by the county of Hastings. It is owned and maintained by the town of Trenton, with the exception of the swing span which was transferred to the Government in June, 1911, and is now maintained by the Trent canal. The swing span was a small truss, and provided two 51 foot clear openings for navigation. The west abutment and pivot pier were built of stone. The east pier of the span was a crib block which was partly torn down and rebuilt by the department in February, 1913.

When the swing span was taken over by the Government the entire bridge was in bad condition and it was then foreseen that a new bridge would have to be built in the near future. When repairs were made to the cribwork pier of the swing span in February, 1913, a tentative plan for a proposed new bridge was made. As the bridge forms a link in the main highway between Toronto and Montreal the design was based on meeting the probable future requirements of the highway and town. It consisted of a concrete substructure, three 125-foot fixed spans, and one 200-foot swing span, with a clear roadway of 24 feet, and two 5-foot sidewalks, with concrete floors throughout.

Owing to the seriously dilapidated condition of the whole bridge it was finally agreed in 1915, between the department and town of Trenton, to build a new bridge on the above general lines.

On the 12th August, 1915, a contract was entered into between the town of Trenton and the Ontario Bridge Company for the construction of a new bridge on the alignment of the old one; the new bridge to consist of a concrete substructure, three 119-foot fixed spans, and one 200-foot swing span, with 24 foot clear roadway, and two 5-foot sidewalks, for the bulk sum of \$127,183, the work to be completed on the 1st June, 1916.

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The Government agreed to pay \$87,183 as their share of the new bridge, leaving the sum of \$40,000 to be paid by the town. A by-law to this effect was submitted to the people on the 14th September, 1915, and was carried by a majority of 250.

The bridge company sublet the construction of the substructure to the Harvey Construction Co., of Deseronto, Ont., who began work early in October, 1915.

At the end of April, 1916, the substructure was entirely completed with the exception of the guide pier for the swing span, which will probably be completed early next month.

The erection of the superstructure was begun on January 14, and is now fully completed except the painting. The bridge was opened for vehicular traffic on the 29th March by the laying of a temporary roadway on the downstream half of the fixed spans. Foot passengers began crossing the bridge about a week earlier.

The old bridge went out of commission on the 12th January, 1916. Between the latter date and the 29th March, traffic was over the ice except during the mild weather of the first week of February when temporary provision was made for it over the bridge.

At the end of April, \$50,000 was paid by the Government to the town of Trenton on account of the government portion of the cost of rebuilding the bridge.

The swing span will be electrically operated and lighted.

A contract was entered into with the Canadian Northern Electric Company on the 19th February, 1916, for the equipment, which will probably be fully delivered and erected by the 1st July.

Port Severn and Muskoka Road Swing Bridges.—A contract for the manufacture and erection of these bridges on the Severn division was entered into with the Hamilton Bridge Works Co., Ltd., on the 1st June, 1915.

The bridge over the lower end of the Port Severn lock was completed and placed in commission on the 16th October, 1915.

The bridge at the Muskoka road over the canal at Washago was placed in commission on the 11th December, 1915. The superstructure has yet to be painted.

Canadian Northern Railway Bridge, Washago.—A contract for the manufacture and erection of the C.N.R. bridge over the canal at Washago, Ont., Severn division, was entered into with the Hamilton Bridge Works Co., Ltd., on the 1st June, 1915.

The fabrication of the bridge is not yet finished. It will be late this summer before it is erected and fully completed.

VALVES FOR LOCKS.

On the 1st June, 1915, a contract was entered into with the Dominion Bridge Company for the manufacture and erection of the wagon and cylindrical valves required for the locks of the Severn division and the new lock to be built at Bobcaygeon.

Part of the material has been fabricated and a small part of it delivered for the valves of the Swift Rapids lock. Should the concrete work of the Swift Rapids and Couchiching locks be built this year the valves for these locks will be installed.

As the contracts for the construction of section 1, Severn division, and the Bobcaygeon section have not yet been let, the work on this contract is not being proceeded with energetically as it is impossible to say when all the valves will be required.

LOCK GATE OPERATING MACHINES.

On the 21st May, 1915, a contract was entered into with the Wm. Hamilton Company for the manufacture and erection of the lock gate operating machines, anchorage fittings and pivots required for the lock gates of the locks on the Severn division and Bobcaygeon section.

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The company have practically completed the fabrication of the material and stored it until required on a leased portion of their yards in Peterborough. A small portion of the material required for the Swift Rapids lock has been delivered at the site of the lock.

LOCK GATES.

On the 8th August, 1913, a contract was entered into with Messrs. Roger Miller & Sons, Ltd., for the manufacture and erection of the lock gates for the Ontario-Rice Lake division.

The contract calls for the construction and erection in the locks of thirty-two pairs of gates, and the construction and storing of eight pairs of spare gates. The total value of work done and materials delivered up to the 31st March, 1916, amounted to \$230,277.93.

All the gates have been manufactured and launched, and those for the first seven locks above Trenton have been stepped, painted, and finished, and those for the locks between Bradley bay and Heeley Falls are now lying in the lower entrance of lock 7 at Glen Ross ready to be towed up the river and stepped in their respective locks as soon as the dredging of the shoals in the river between Frankford and Glen Ross will permit taking the pontoon gate lifter up the river. It is the intention to step the gates in locks 8 to 17 as soon as conditions permit doing so.

The lower gates of lock 1 were stepped in position on the 14th August, 1914, and those of lock No. 7 on the 12th July, 1915.

The spare gates have all been completed and sunk in a berth prepared in 1914 for them above dam No. 2 at Trenton.

SLUICE PIPES AND VALVES FOR SWIFT RAPIDS DAM, SEVERN DIVISION.

On the 27th October, 1915, a contract was entered into with the Wm. Hamilton Company, Ltd., for the delivery and erection of three sluice pipes with their valves, operating machinery, and electrical equipment for the Swift Rapids dam, section 2, Severn division.

Each of the tubes is 6 feet in diameter at the valve and 54 feet long. They are to be built into the bottom of the dam for the regulation of the river, and will operate under a head of 47 feet.

Part of the material has been fabricated and stored on leased ground in the yards of the company at Peterborough. It is not probable that the contract will be completed this year.

BOBCAYGEON.

In the fall of 1913 a survey was completed at Bobcaygeon for the purpose of preparing plans and specifications for the construction of a new lock at this point to the same dimension as those of the Ontario-Rice Lake division. Tenders for the work were received by the department on the 17th August, 1914, but owing to the outbreak of war in Europe the execution of the work is indefinitely delayed.

SEVERN DIVISION.

A description of the division was given in my report for the fiscal year ended the 31st March, 1914. For construction purposes it has been divided into four sections or contracts, the estimated value of which is about \$2,600,000, on which there has been expended for work done and materials delivered up to the 31st March, 1916, the sum of \$872,105.77 or about 33 per cent of the estimated value of the four contracts at their respective contract or estimated rates.

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There are on the division, six locks, sixteen dams, and eight bridges. One lock is finished and in commission. Six dams and three bridges are finished and in commission.

Port Severn Section.—This section comprises the construction at Port Severn of a lock 14½-foot lift, 100 feet long between hollow quoins, and 25 feet wide, with 6 foot depth of water on the mitre sills, and the main regulating dam at the mouth of the river, together with several smaller dams in the immediate vicinity of Port Severn and the necessary excavation at the upper and lower entrances of the lock for providing a channel 6 feet deep at normal water level.

A contract for the work was entered into with the York Construction Company, Ltd., on the 24th September, 1913. The total value of work done and materials delivered up to the 31st March, 1916, was \$137,802.66, or approximately 95 per cent of the total value of the work.

The works embraced in the contract were fully completed on November 30, 1915. The final estimate for the work is about finished.

The gates of the Port Severn lock were stepped on the 16th July, 1915. On the 26th July the contractors allowed the Midland Retail Merchants' Association picnic to use the lock, on which date a large number of motor boats were locked up from Georgian bay into Gloucester pool and back in the evening. The lock remained in commission for the balance of the season. Last month a regular lockmaster was appointed by the department.

Section No. 1.—The plans and specifications for this section were completed and sent to the department on the 7th July, 1915, but it is now probable that the work will not be advertised for tenders until the European war is over.

The section extends from deep water in the Georgian bay, lake Huron, at a point about one mile southwest of the Minnicog beacon on island No. 181, to the lower end of section 2 above the Big Chute, a distance of about 17 miles. The work includes the three locks at Honey Harbour, Little and Big Chutes; the regulating dams at Big Chute and at the outlets of Six-mile lake into Gloucester pool; together with a lot of granite rock excavation in the Georgian bay near the Minnicog beacon, the lock pits, the canal channels from Honey Harbour to Gloucester pool and between the Little and Big Chutes.

Section No. 2.—This section extends from the upper end of section 1 at Big Chute to a point about one-half mile above Macdonald's rapids, a distance of about 11½ miles. The work includes a dam on Pretty channel north of the Big Chute; a dam about 70 feet high and a lock of 47-foot lift and power-house at Swift rapids; and the reconstruction of the Canadian Northern Railway bridge at Ragged rapids; together with a lot of granite rock excavation.

A contract for the work was entered into with the Inland Construction Co., Ltd., on the 23rd April, 1914. The total value of work done and materials delivered up to the 31st March, 1916, was \$406,882.66, or 57 per cent of the total value of the contract.

The dam at Pretty channel was finished last fall and is now used for regulating the Big Chute-Ragged Rapids reach. The dam at Swift rapids is about 50 per cent built, but no further construction on it can be proceeded with until an agreement has been made with the Orillia Water, Light and Power Commission relative to their hydro-electric development at Ragged rapids. The closing of the Swift Rapids dam drowns out Ragged rapids. The concrete foundation for the power-house at Swift rapids was finished last fall and the wheel penstocks and the controlling sluices of the dam in front of them will be finished next month. The upper entrance piers and lift wall of Swift Rapids lock are built and about 95 per cent of the excavation for the lock pit has been taken out. A large percentage of the rock excavation at Flat rapids, the Canadian Northern Railway bridge at Ragged rapids, and at Portage bay has been taken out.

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Section No. 3.—This section extends from the upper end of section 2 to deep water in Couchiching lake, a distance of about $15\frac{1}{2}$ miles. The contract includes a lock of 20-foot lift, two highway swing bridges, one railway swing bridge, and several small dams at the head of the river in the vicinity of Washago, together with a large quantity of earth and rock excavation.

A contract for the work was entered into with the Randolph Macdonald Company on the 4th August, 1914. The total value of work done and materials delivered up to the 31st March, 1916, was \$327,420.45, or 36 per cent of the total value of the work.

The dam across the west branch of the river at Washago was finished last summer and is now in use. The substructure of the Muskoka Road bridge was completed early last fall, and the superstructure erected and placed in commission on the 11th December, 1915. The substructure for the Canadian Northern Railway bridge is about 90 per cent finished. The pivot pier for the Hamlet highway bridge across the river is built, and the balance of the substructure will be completed this summer. About 50 per cent of the excavation for the pit of the Couchiching lock has been taken out. A large percentage of the canal prism between the lock and lake has been completed. The dredging in lake Couchiching is about 70 per cent finished. The grading of the Canadian Northern Railway diversion has been finished and the ties for the new track delivered together with part of the ballast.

STREAM MEASUREMENT.

In my annual report for the year ended the 31st March, 1914, a short description of the Trent watershed was given, and also the results of the stream measurement for the Trent and Crow rivers over sharp-crested weirs built at Heeley Falls on the Trent in November, 1911, and at the mouth of the Crow river in October, 1910.

Attached to this report are tables Nos. 1 and 2 showing the discharge over the weirs for the calendar year 1915. Table No. 3 represents the discharge over the Heeley Falls and Crow River weirs jointly; this is practically the discharge of the Trent river at Campbellford.

Table No. 4 gives the total actual monthly discharge in cubic feet from the weir measurements, and the deduced flow in cubic feet per second at each of the three foregoing places.

LAKE SURVEYS.

Very little work was done last year on these surveys. During the past winter a small field party completed the topography along the shores of Sturgeon lake, and the Scugog river up to Lindsay.

There are enclosed photographs of the Buckhorn dam during high water, April, 1916; also photographs showing the ice conditions at the back of dam No. 10, Campbellford, in March, 1916, and photographs of the new highway bridge built this year at Trenton, Ont.

I am, sir, your obedient servant,

ALEX. J. GRANT,
Superintending Engineer.

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TABLE No. 1.—Trent Canal, Year 1915, Water Gauge Readings.—Flow in Cubic Feet per Second.

Days.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	99	99	536	793	1,015	826	437	437	826	486	413	644
2.....	99	99	503	756	992	739	429	470	681	486	413	635
3.....	99	99	494	719	972	662	429	494	555	486	421	625
4.....	102	102	477	690	972	589	437	520	429	494	429	598
5.....	102	106	470	653	951	486	453	777	413	494	437	581
6.....	102	106	486	625	939	536	453	1,069	397	494	453	563
7.....	102	106	503	729	939	589	453	2,313	383	486	429	536
8.....	102	106	519	846	929	635	437	2,186	421	477	413	546
9.....	102	106	536	951	1,015	672	429	2,075	470	486	397	546
10.....	99	109	536	1,047	1,069	719	429	1,952	503	494	383	555
11.....	99	109	453	1,136	1,158	768	437	1,885	503	503	367	536
12.....	99	113	453	1,226	1,004	729	453	1,805	512	520	352	520
13.....	99	117	473	1,331	1,004	690	453	1,715	520	528	338	503
14.....	102	126	494	1,355	867	662	461	1,600	520	536	316	486
15.....	102	135	515	1,379	919	625	477	1,488	520	536	294	494
16.....	109	140	536	1,404	962	581	486	1,367	528	536	280	512
17.....	117	150	536	1,416	1,015	546	477	1,261	536	536	268	520
18.....	122	150	503	1,428	1,080	503	470	1,238	536	536	261	503
19.....	131	160	503	1,440	982	503	470	1,226	520	536	261	486
20.....	122	160	563	1,464	909	512	461	1,204	512	520	255	470
21.....	117	166	625	1,404	826	520	453	1,181	494	503	261	453
22.....	113	166	690	1,355	836	520	429	1,047	477	486	261	429
23.....	113	171	808	1,296	846	563	413	899	470	461	268	429
24.....	113	171	909	1,204	857	607	429	768	470	429	294	429
25.....	113	374	899	1,114	867	662	453	768	477	397	323	429
26.....	113	644	888	1,015	768	607	461	777	477	367	352	437
27.....	109	607	882	929	662	555	470	737	486	374	383	453
28.....	109	572	877	951	589	503	461	787	486	390	453	453
29.....	106	.....	872	972	644	453	453	797	486	397	520	429
30.....	102	.....	867	992	700	453	429	808	486	397	589	413
31.....	102	.....	830	.....	768	.....	413	817	.....	405	.....	397
Mean.....	3,320	5,269	19,236	32,620	28,056	18,015	13,895	36,518	15,094	14,776	10,884	15,610
Highest.....	107	188	621	1,087	905	600	448	1,178	503	477	363	504
Lowest.....	131	644	909	1,464	1,158	826	486	2,313	826	536	589	644
Lowest.....	99	99	453	625	589	453	413	437	383	367	255	397

REMARKS.—Flow of Crow river, as measured over a sharp-crested weir, situated 800 feet above Crow bay.

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TABLE No. 2.—Trent Canal, Year 1915, Water Gauge Readings.—Flow in Cubic Feet per Second.

Days.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1,054	1,064	1,600	2,052	2,185	2,561	1,208	1,284	2,098	1,423	1,442	2,229
2	992	1,038	1,642	2,006	1,748	2,489	1,189	1,284	2,136	1,284	1,571	2,189
3	1,092	1,183	1,664	1,767	1,459	2,512	1,189	1,199	1,542	1,360	1,583	1,965
4	1,073	1,098	3,158	1,942	1,600	2,075	1,227	1,284	992	1,604	1,527	1,854
5	1,063	1,098	2,755	1,896	1,748	1,600	1,189	3,447	904	2,011	1,410	1,725
6	1,101	1,098	2,417	2,029	1,832	1,440	1,256	4,028	889	2,143	1,045	1,392
7	1,208	1,227	2,611	2,120	1,600	1,341	1,659	3,713	1,347	2,742	1,026	1,288
8	1,117	1,208	2,326	2,371	1,600	1,642	1,360	3,553	1,440	2,912	1,566	1,618
9	1,117	1,227	2,755	1,877	1,620	1,832	1,478	3,393	1,348	2,561	1,795	1,707
10	1,151	1,189	2,584	1,877	1,540	1,942	1,813	3,211	1,466	2,466	1,760	1,849
11	1,151	1,189	2,489	2,139	1,662	2,162	1,581	3,309	1,303	2,417	1,724	1,285
12	1,151	1,136	2,489	2,706	1,874	2,231	1,440	3,322	1,600	2,611	1,905	1,284
13	1,151	1,170	2,371	2,880	2,095	2,162	1,421	2,161	1,706	2,529	1,611	1,585
14	1,171	1,189	2,584	3,006	2,775	2,029	1,402	2,348	1,737	2,407	1,763	1,748
15	1,151	1,170	2,804	3,606	3,049	2,029	1,322	2,280	1,771	2,205	1,914	1,719
16	1,208	1,406	1,817	3,823	3,211	2,052	1,360	2,238	1,849	1,284	1,865	1,678
17	1,189	1,246	1,919	3,743	3,006	2,052	1,402	2,272	2,104	1,402	1,842	1,748
18	1,208	1,227	2,489	3,743	3,055	2,052	1,303	2,176	1,600	1,716	1,747	1,581
19	1,227	1,208	2,257	3,796	3,340	2,098	1,284	2,123	1,562	1,686	1,652	1,813
20	1,208	1,208	2,326	3,796	3,211	1,767	1,341	2,053	1,740	1,696	2,029	2,063
21	1,239	1,227	2,257	3,823	2,979	1,854	1,322	1,878	1,851	1,794	2,371	2,245
22	1,136	1,151	2,162	4,822	2,956	1,767	1,341	1,440	1,822	1,822	2,633	2,334
23	1,170	1,227	2,257	4,883	4,151	1,722	1,341	1,502	1,752	1,581	3,014	2,305
24	1,045	1,284	2,371	5,833	5,092	1,642	1,341	1,624	1,614	1,448	2,862	2,548
25	1,045	1,440	1,984	5,214	5,092	1,520	1,611	1,678	1,478	1,878	2,642	2,611
26	1,117	1,520	1,984	5,214	5,035	1,421	1,440	1,719	1,664	1,792	2,682	2,683
27	1,151	1,581	1,877	4,530	3,933	1,379	1,284	1,534	2,008	1,766	2,371	2,864
28	1,151	1,562	2,098	4,157	3,131	1,379	1,322	1,402	1,747	1,753	2,253	3,176
29	1,151	.....	1,725	3,880	3,211	1,379	1,322	1,379	1,605	1,644	2,433	3,296
30	1,151	.....	2,075	2,831	2,930	1,284	1,322	1,666	1,571	1,265	2,199	3,156
31	1,136	.....	2,052	.....	2,561	.....	1,341	1,823	.....	1,098	.....	3,006
Mean	35,275	34,571	69,899	98,362	85,287	55,415	42,411	68,323	48,246	58,300	58,237	64,524
Highest	1,138	1,235	2,254	3,278	2,751	1,847	1,368	2,204	1,608	1,881	1,941	2,081
Lowest	1,239	1,581	3,158	5,833	5,092	2,561	1,813	4,028	2,136	2,912	3,014	3,296
Lowest	992	1,038	1,600	1,767	1,459	1,284	1,189	1,199	889	1,098	1,026	1,265

REMARKS.—Flow of Trent river as measured over a sharp-crested weir situated at Heeley Falls, about 3,000 feet above Crow bay.

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TABLE No. 3.—Trent Canal, Year 1915, Water Gauge Readings.—Flow in Cubic Feet per Second.

Days.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.	1,153	1,163	2,136	2,845	3,200	3,387	1,625	1,721	2,924	1,909	1,855	2,873
2.	1,091	1,137	2,145	2,762	2,740	3,228	1,618	1,754	2,817	1,770	1,944	2,824
3.	1,191	1,282	2,158	2,486	2,431	3,174	1,618	1,693	2,097	1,846	2,004	2,590
4.	1,175	1,200	3,635	2,632	2,572	2,664	1,664	1,804	1,421	2,098	1,956	2,452
5.	1,165	1,204	3,225	2,549	2,699	2,086	1,642	4,224	1,317	2,505	1,847	2,306
6.	1,203	1,204	2,903	2,654	2,771	1,976	1,709	5,097	1,286	2,637	1,498	1,955
7.	1,310	1,333	3,114	2,849	2,539	1,930	2,112	6,026	1,730	3,228	1,455	1,824
8.	1,219	1,314	2,845	3,217	2,529	2,277	1,797	5,739	1,861	3,389	1,979	2,164
9.	1,219	1,333	3,291	2,828	2,635	2,504	1,907	5,468	1,818	3,047	2,192	2,253
10.	1,250	1,298	3,120	2,924	2,609	2,661	2,242	5,163	1,969	2,960	2,143	2,404
11.	1,250	1,298	2,942	3,275	2,820	2,930	2,018	5,194	1,804	2,920	2,091	1,801
12.	1,250	1,249	2,942	3,932	2,878	2,960	1,893	5,127	2,112	3,131	2,257	1,804
13.	1,250	1,287	2,844	4,211	3,009	2,852	1,874	3,876	2,226	3,057	1,949	2,088
14.	1,273	1,315	3,078	4,361	3,642	2,691	1,863	3,948	2,267	2,943	2,079	2,234
15.	1,253	1,305	3,319	4,985	3,968	2,654	1,799	3,768	2,291	2,741	2,208	2,213
16.	1,317	1,546	2,353	5,227	4,173	2,633	1,846	3,605	2,377	1,820	2,145	2,190
17.	1,306	1,396	2,455	5,159	4,021	2,598	1,879	3,533	2,640	1,938	2,110	2,268
18.	1,330	1,377	2,992	5,171	4,135	2,555	1,773	3,414	2,136	2,252	2,008	2,084
19.	1,358	1,368	2,760	5,236	4,322	2,601	1,754	3,359	2,082	2,222	1,913	2,299
20.	1,330	1,368	2,889	5,260	4,120	2,279	1,802	3,257	2,252	2,216	2,284	2,533
21.	1,356	1,393	2,882	5,227	3,805	3,374	1,775	3,059	2,345	2,297	2,632	2,698
22.	1,249	1,317	2,852	6,177	3,792	2,387	1,770	2,487	2,299	2,308	2,894	2,763
23.	1,283	1,308	3,065	6,179	5,003	2,285	1,754	2,401	2,222	2,042	3,282	2,734
24.	1,158	1,455	3,280	7,037	5,949	2,249	1,775	2,392	2,084	1,877	3,156	2,977
25.	1,158	1,814	2,883	6,328	5,959	2,182	2,064	2,446	1,955	2,275	2,965	3,040
26.	1,230	2,164	2,872	6,220	5,803	2,028	1,901	2,496	2,141	2,159	3,034	3,120
27.	1,260	2,188	2,759	5,459	4,595	1,934	1,754	2,321	2,594	2,140	2,754	3,317
28.	1,260	2,134	2,975	5,108	3,720	1,882	1,783	2,189	2,233	2,143	2,706	3,629
29.	1,257	.....	2,597	4,852	3,855	1,832	1,775	2,176	2,091	2,041	2,953	3,725
30.	1,253	.....	2,942	3,823	3,630	1,737	1,751	2,474	2,057	1,662	2,788	3,569
31.	1,238	.....	2,882	.....	3,329	.....	1,754	2,640	.....	1,503	.....	3,403
	38,595	39,840	89,135	130,982	113,343	73,430	56,306	104,841	63,340	73,076	69,121	80,131
Mean.....	1,245	1,423	2,875	4,366	3,656	2,447	1,816	3,382	2,111	2,358	2,304	2,585
Highest.....	1,358	2,188	3,635	7,037	5,959	3,387	2,242	6,026	2,924	3,389	3,282	3,725
Lowest.....	1,091	1,137	2,136	2,486	2,431	1,737	1,618	1,693	1,286	1,503	1,455	1,801

REMARKS.—Total flow of Trent river at Campbellford as measured over the Crow and Heeley Falls weirs.

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TABLE No. 4.—Total flow of the Crow and Trent Rivers at Crow River, Heeley Falls and Campbellford for 1915.

Month.	Crow River.	Heeley Falls.	Campbellford.
	Millions of Cubic feet.	Millions of Cubic feet.	Millions of Cubic feet.
January.....	286.59	3,048.02	3,334.61
February.....	454.81	2,987.71	3,442.52
March.....	1,663.29	6,037.11	7,700.40
April.....	2,817.50	8,496.58	11,314.08
May.....	2,423.95	7,368.28	9,792.23
June.....	1,555.20	4,787.42	6,342.62
July.....	1,199.92	3,664.05	4,863.97
August.....	3,155.16	5,903.19	9,058.35
September.....	1,303.78	4,167.94	5,471.72
October.....	1,277.60	5,038.07	6,315.67
November.....	940.90	5,031.07	5,971.97
December.....	1,349.91	5,573.75	6,923.66
Totals.....	18,423.61	62,103.19	80,531.80
Average rate of flow per second for the year, cubic feet.....	584.36	1,969.28	2,553.64

REPORT OF THE SUPERINTENDENT, TRENT CANAL.

PETERBOROUGH, May 18, 1916.

SIR,—I have the honour to submit the annual report on the maintenance and operation of the Trent canal, for the year ending on the 31st March, 1916.

The extent of waterway open to navigation is the same as last year, namely, 160 miles from Trent Bridge to Washago, in addition to which other channels are maintained approximating 90 miles.

That section of the Trent river extending from 1,000 feet west of the Heeley Falls bridge to the village of Hastings, a distance of about 13 miles, upon which extensive improvement work has been done under the superintending engineer's office, was transferred to this office for maintenance on the 16th September last.

There were no interruptions to traffic throughout the year.

OPENING AND CLOSING OF NAVIGATION.

Hastings to Rice lake, opened April 20, closed November 30.
 Rice lake to Peterborough opened April 17, closed December 4.
 Peterborough to Lakefield, opened May 4, closed November 20.
 Peterborough Lift Lock, opened May 6, closed November 8.
 Lakefield to Bobcaygeon, opened April 19, closed November 18.
 Bobcaygeon to Rosedale, opened April 26, closed November 20.
 Kirkfield Lift Lock, opened May 4, closed October 25.
 Kirkfield to lake Simcoe, opened May 18, closed October 30.
 Lake Simcoe to Orillia, opened April 27, closed November 15.
 Scugog river and Lindsay Lock, opened April 21, closed November 13.

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The following work was performed on the several divisions of the canal during the year :—

REPAIRS.

HEELEY FALLS TO BORCAYGEON.

Peterborough Lift Lock.—The steel plates of the chambers of this lock have become pitted with rust, in places to a depth of a sixteenth of an inch. To check the progress of this corrosion, the pits were thoroughly cleaned and paint applied to each pit after the lock had been closed for the season of 1915. The interiors of these chambers will be cleaned and painted before opening the lock for navigation in 1916.

Locks and lockgates.—The two top bars of the lower gates at Lovesick were renewed and new mullions and bridge plank provided for these gates.

Mullions and bridge plank were renewed at locks Nos. 2, 5, and 6.

The gate arm pits at lock No. 6 were rebuilt in concrete.

The lockgates at Buckhorn, Lovesick, Burleigh, Young's Point, No. 6, and No. 7 were painted.

Flag poles were provided at Lakefield, Young's Point, Burleigh and Lovesick.

Booms, Slides and Dams, Navigation Waters.—The top courses of the piers, and the sheeting of the dams at locks Nos. 4 and 5 were renewed.

The top courses of the dam at Gilchrist bay were rebuilt.

Repairs were made to the apron of the log slide in the Nassau dam.

New stoplogs were provided where necessary, and all booms maintained as usual.

Entrance Piers.—About 1,400 lineal feet of decayed oak walling on the entrance walls at locks Nos. 3, 4, 5, and 6 were removed and the walling checks filled with concrete. This work will be continued where decayed wallings have to be removed.

Banks and Prism.—The grading behind the lock walls at lock No. 6 was trimmed and sodded, and now presents a much better appearance than formerly.

An accumulation of boulders in the lower entrance to lock No. 7, as well as many boulders in the lower entrance at Young's Point, were removed.

Bridges.—Bridges at the following points were redecked:—Hastings, Nassau, Lakefield and Young's Point. Elm top planking was placed on the bridges at Bensfort and Wallace Point. The swinging section of the floating bridge at Gannon's Narrows, as well as the sections to which it is attached, were repaired, replanked and provided with a new guard railing. Minor repairs were made to bridges at Maria street, Peterborough, Burleigh, and Buckhorn, and to the masonry abutment of the bridge at lock No. 7. The bridges at Trent Bridge and Burleigh were painted.

BOBCAYGEON TO BALSAM LAKE.

Locks and Lockgates.—The valves in the lockgates at Bobcaygeon were repaired by diver, who also removed a quantity of debris from the chamber of this lock. Minor repairs were made to the gate of the dry dock at the same place.

The sills of the lock at Fenelon Falls were repaired by the diver.

Banks and Prism.—A small amount of rock was removed from the side of the canal above the lock at Fenelon Falls to enable boats, which ply between there and Cobocouk, to turn.

Bridges.—The bridges at Bobcaygeon and Fenelon Falls were redecked. Other repairs were made to the bridge at Fenelon Falls, and minor repairs to the Rosedale bridge.

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HEELEY FALLS TO BOBCAYGEON.

Kirkfield Lift Lock.—Difficulty has been experienced in working the pumps, owing to the grating of the penstock becoming blocked with weeds and leaves. In order to relieve this trouble an air-pipe has been fitted to the penstock by means of which it is hoped the grating can be kept clear.

Locks and Lockgates.—A broken valve and frame were removed, and a new valve placed in the south leaf of the upper gates at lock No. 4.

Drainage pipes to collect and carry away seepage were put through the lower entrance wall at lock No. 2.

All the lockgates on this division were painted.

Booms, Slides and Dams, Navigation Waters.—Iron pipe railings for dams Nos. 1 and 2 were prepared during the winter and will be erected as soon as possible.

The dam at Victoria Road village was re-gravelled.

Banks and Prism.—Between locks 4 and 5 about 6,000 lineal feet of riprap, which was in need of repair, were repaired to a level of 1 foot higher than formerly.

About 1,000 lineal feet of stone protection were repaired on the exposed portion of the 4th Concession road, in the townships of Eldon and Carden.

About 100 rods of fence were built, where stone piles have been removed, on the north side of the canal, east of the Kirkfield lift lock.

The boundary road between the townships of Bexley and Eldon, through flooded land, for a distance of about 700 feet, was raised to a level of 2 feet above high water in Balsam lake.

The highway on canal property in the vicinity of Talbot was repaired with gravel for a distance of about 3,000 lineal feet.

Many obstructions were removed from the canal prism between the Balsam guard gate and the 7th Concession road, township of Carden.

Bridges.—The Victoria Road bridge was redecked. The pivot pier of this bridge is slowly settling.

GENERAL.

Booms, Slides and Dams, Reservoir Waters.—A number of new stoplogs were provided for Reservoir Lake dams, but no other work of any description was done on these dams. Dams at Percy lake and Paint lake are in such a condition that it is impossible to use these lakes for the storage of water. About 11,000 acre-feet of storage is thereby lost.

Guard Gates.—All guard gates were maintained in working order and raised for the winter months.

Banks and Prism.—Where necessary fences were repaired, ditches cleaned, and riprap repaired. Grass and weeds on canal banks were also cut.

Lockhouses and other Buildings.—The storehouse at lock No. 6 was enlarged and an ice-house was built at lock No. 7. Watch houses were provided at Wallace Point, Warsaw Road, and Victoria Road bridges.

Necessary repairs were made to the lock buildings at Hastings, Peterborough lift lock, Lakefield, Burleigh, Buckhorn, Young's Point, Bobcaygeon, and Kirkfield.

The machine shop at the Kirkfield lift lock which was without power from October to May was equipped with a gasoline engine to permit of repair work being done there during the winter months.

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Plant.—Ordinary repairs were made to maintain the plant in good condition, and extensive repairs were made to flat scow No. 13.

The shipyard formerly used for repairs to floating plant was upon the property of the McDonald Estate, and situated close to their saw-mill in the city of Peterborough. Owing to objections from the fire insurance underwriters it was necessary to provide another shipyard. The buildings were removed to lock No. 6, ways were placed, and grading done to provide the necessary accommodation there.

At the request of the Provincial Health Officer, septic tanks were installed on the dredge *Fenelon* and steamer *Bessie Butler*.

Aids to Navigation.—Lighthouses and buoys were painted and maintained as usual. The log floats carrying the lighthouses in the Scugog river were raised by placing additional timber under them. The acetylene machines were cleaned and repaired.

INCOME IMPROVEMENTS.

New Dump Scows.—Authority was given on the 30th June for proceeding with the construction of two new dump scows of 120 cubic yards capacity, materials for which were purchased last year. Work on the construction of these scows was started on the 1st of August. The scows are now completed, and will be launched and in use for the coming season's work.

Drilling and Blasting.—The work of drilling and blasting above Bobcaygeon was resumed on the 14th June, and discontinued on the 8th of September. An area 540 by 80 feet of what will be the channel approaching the upper entrance to the new canal, has been drilled and blasted.

Lindsay Street Bridge.—A contract was entered into with the Hamilton Bridge Works Co., on the 26th April, 1915, for the erection of a highway swing span over the canal at Lindsay, to be completed by the 15th of July. The work of removing the old wooden bridge was commenced on the 6th of July. Necessary concrete work was done to the pivot pier, river pier, and abutment, and the erection of the new bridge was commenced on the 17th July. The time for the completion of this contract was extended to the 15th August. The work embraced in the contract was completed within that time; however, at the request of the town of Lindsay an additional sidewalk was provided on the west side of the bridge, which delayed the opening of the bridge until the 28th August.

Enlarging Off-take Drain, Kirkfield Lift Lock.—This off-take drain was insufficiently large to accommodate the flow at times when the reach above the lock was being unwatered. The drain was enlarged by the removal of a quantity of rock.

Riprap, Talbot River.—The work of protecting the exposed shores of the canalized Talbot river by riprapping, between Balsover and Talbot, was resumed on June 16, and discontinued for the season on October 18. It is expected that this work will be completed during the coming season.

Dredging.—The work of straightening the channel at Henderson's narrows, commenced last year, was completed, after which the dredge was taken to Buckhorn to remove the underwater portion of a coffer dam across the upper bays of the dam at Buckhorn, which had been placed to make alterations in that dam. This work was completed on the 18th June. The dredging plant was then taken to Peterborough to start the work of deepening and widening the channel of the Otonabee river to Rice lake, which work was charged to capital.

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CAPITAL.

In view of the early opening of 8-foot 4-inch navigation from lake Ontario to Rice lake, it was decided to proceed with the deepening of the Otonabee river between Rice lake and the city of Peterborough. The policy adopted was to first improve at points where the channel is insufficiently deep to accommodate the vessels at present using the river, and later to prosecute the work from Peterborough southward. The grade determined upon for this work between Peterborough and Rice lake is elevation 603.80-M.S.L.

The channel through Yankee Bonnett's bar was first deepened, and widened 25 feet. The old wing dam on the east side of the river at that point was also removed to the depth of the surrounding river-bed only.

The plant was moved to Howden's bar on the 11th August, and was engaged in deepening and widening at that point until the close of the season. For a distance of 1,600 feet the channel was deepened for a width of 65 feet; 15,500 cubic yards of material, scow measure, were removed. As spoil ground is not available at convenient distance, the dredge *Auburn*, of the superintending engineer's fleet was used to deposit this excavated material on the low-lying, marshy shores of the river. By such means the shores of the river are being greatly improved.

This work will be proceeded with during the coming season.

The water conditions on the Trent watershed were most favourable during the year 1915. The precipitation from the 1st of July to 31st December was about 3.50 inches more than the average, during the same period, for the past sixteen years, being particularly heavy in the months of July and August. As the result of this abnormal precipitation, it was possible to hold all the navigation lakes fully up to the desired levels throughout the fall, and at the same time provide a constant flow in the Otonabee river of about 1,700 second feet after August 1. In December this flow was increased to 2,500 second feet for the purpose of running off the surplus water from the storage and navigation lakes, in order to have these lakes at the desired levels before the freshet of 1916. The exceptional thaw during the month of January made it possible to run off a large volume of water; still, owing to conditions on the watershed, it was estimated that all the lakes and reservoirs would fill in freshet. This they did, and the amount of water in storage at present, together with the fact that very little water will be used for log driving during the coming season, will, it is estimated, permit of the flow in the Otonabee river being maintained at about 1,500 second feet during the coming summer.

I have the honour to be, sir,

Your obedient servant,

A. L. KILLALY,

Superintendent.

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REPORT OF ENGINEER IN CHARGE OF WELLAND SHIP CANAL.

ST. CATHARINES, Ont., June 30, 1916.

W. A. BOWDEN, Esq.,
Chief Engineer,
Department of Railways and Canals,
Ottawa, Ont.

SIR,—I beg to submit my annual report on the progress of construction on the Welland Ship Canal.

No additional contracts for construction have been awarded during the past year; consequently, the work in progress is the same as that for the period covered by my last annual report, namely, the construction of sections Nos. 1, 2, 3, 4-A and 5, section No. 1 being at the lake Ontario end of the canal and the other sections following consecutively toward lake Erie. The sections under construction comprise not quite one-half of the length of the canal between lakes. They include, however, all of the seven lift locks, and the greater part of the other heavy construction work, upon the completion of which the opening of the canal to navigation largely depends. Over the remainder of the route to lake Erie the work involved consists principally of excavation in thorough cut in order to straighten the present line, and in widening and deepening the present canal to the new dimensions; also building of the guard lock north of Port Colborne.

Operations on sections Nos. 1, 2, 3 and 5 progressed steadily during the season of 1915 until the latter part of December, when concreting was discontinued for the winter; and the majority of the machines engaged in earth excavation were closed down during January owing to weather conditions and the need for repairs. On section No. 3 rock excavation on the site of the flight locks was carried on all winter.

The winter months were employed by the various contractors in overhauling and making the necessary repairs to plant, hauling stone for concrete from section No. 3 to their respective works, and in other ways preparing for the present season's operations.

The opening up of work this spring was somewhat retarded owing to the backwardness of the season; and the continued rains during April and May hampered the contractors a good deal in their operations. Concreting, which was resumed about April 15 on sections Nos. 1 and 2, was three weeks later than the opening of 1915.

The shortage of labour prevalent throughout the country was felt by the contractors to some extent during the latter part of 1915, and labour conditions this spring looked quite serious, but the situation has improved somewhat, although it is becoming much more difficult to obtain and hold labour than it has been heretofore.

SECTION No. 1.

This section comprises work between station 0 and station 150, a distance of 2.84 miles, one-half of which is in the harbour and one-half inland.

Contractors.—The Dominion Dredging Company, Limited, of Ottawa, Ont.

Work Involved.—Construction of harbour for new lake Ontario entrance to canal, comprising 25-foot dredged channel, $1\frac{1}{2}$ miles long; construction of reinforced concrete entrance piers, retaining walls, etc; excavation of $1\frac{1}{2}$ miles of canal prism inland; construction of lock No. 1, with weirs, regulating pond, etc., and the substructure for bridges Nos. 1 and 2.

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The new harbour is being formed by the building of two long earthen embankments extending $1\frac{1}{2}$ miles out into the lake, which inclose and protect the entrance channel. The material to form these embankments consists principally of the dry excavation from sections Nos. 1, 2 and 3, which is hauled to the lake and dumped from timber trestles extended out as the dumping proceeds, as explained in detail in my last annual report. During the working seasons of the past year, the contractors for sections Nos. 2 and 3 have been hauling material steadily to the lake, section No. 2 dumping in the west embankment and section No. 3 in the east embankment. No dry material from section No. 1 has been disposed of in the harbour during the year, as dry excavation on this section has been completed with the exception of about 156,000 cubic yards at the south end, which is being reserved for backfill behind the east lock and entrance walls. The dredged material from the harbour has also been deposited on the site of these embankments, forming an underwater embankment, as explained in my last report. This material has also been deposited, as required, to minimize the effects of slides which often occur where the fresh dry material is being dumped.

The trestle for the west embankment has now reached the outer extremity of the harbour, almost $1\frac{1}{2}$ miles from the shore, and the filling over this distance is nearing completion. The trestle for the east embankment has reached a point 5,540 feet from the shore and its further extension, and widening out of the fill, is progressing steadily. Up to the present time 4,200,000 cubic yards of dry excavation from sections Nos. 1, 2 and 3, and 900,000 cubic yards of dredged material from the harbour have been placed in these fills, making a total of over 5,000,000 cubic yards out of the total estimated quantity of 7,500,000 cubic yards available for this purpose.

It was expected that a good deal of difficulty would be experienced in maintaining these embankments against storm action during the fall and winter months, now that they have reached the outer end of the harbour, and while some loss of material and damage to the trestles has occurred, this has not been of a very serious nature, and the building of the embankments is working out very successfully. The prevailing storms during the winter have been largely from the northwest, and owing to the greater length of the west embankment and the protection it has afforded the east embankment, it has suffered to a greater extent than the latter. On November 20 one pile bent was washed out of the west trestle. On December 29, after a series of heavy northwest gales, three bents were carried out, and the filling, which had been up to the bottom of the stringers, was washed out to water level over a distance of 225 feet. From February 25 to 28 a very severe storm from the northwest swept the lake, washing the material out of about seven bents, damaging the two bents at the extreme end, and carrying out completely three bents immediately adjoining. The west side of the fill, which was exposed to the full force of the storm, was undermined over a distance of about 500 feet at the end, causing a subsidence of this section of the embankment and main line tracks to below water level. The two end bents, which were thus left standing alone, disappeared completely on March 7, as well as one of the end bents in the gap left by the storm of February 28.

No damage was caused to the trestle on the east side, and the only loss during the winter was the washing of the material out of the seven end bents and washing out to water level of a few hundred feet of the embankment. Some rock from the excavation on section No. 3 was dumped on the east side during the winter for the purpose of protecting the trestle and the face of the embankment at the outer end.

While heavy storms have resulted in considerable loss of material, especially where the filling is green, these embankments have stood up very well under normal wave action. The slopes will eventually be protected by riprap from the rock excavation on section No. 3, and, as the embankments are being gradually completed, arrangements are now being made with the contractors for section No. 3 to commence hauling stone to the lake for this purpose.

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Dredging.—Three dredges of large capacity were engaged all last season, and are now at work excavating the entrance channel to the required 25-foot depth. These dredges are: The *Fundy* with 6-yard dipper, *Delver* with 5-yard dipper, and *C. S. Boone* with 5-yard dipper, together with the tugs *McNaughton*, *Gwennith*, *Lynn B.* and *Alice*, four steel dump scows, two wooden dump scows, and other miscellaneous equipment. A drill boat, equipped with three steam rock drills, has also been in operation drilling blast holes for loosening the material ahead of the dredges. The material to be excavated is of a very hard nature, consisting for the most part of firmly cemented sand and clay, and for a distance of approximately 1,700 feet, rock crops up about 3 feet above the grade line. Consequently, dredging operations are necessary slow, but in view of the conditions which exist, fairly satisfactory progress is being made.

The dredges worked in the harbour until about the middle of December, 1915, when they were towed to Port Dalhousie and laid up for the winter. The *Fundy* and *Delver* commenced work for the present season on April 5, and the *C. S. Boone* on April 8. To date, 1,106,000 cubic yards of earth excavation have been removed, and 38,060 cubic yards of rock, the material all being disposed of in the harbour embankments.

Reinforced Concrete Crib.—The reinforced concrete cribs, of which the outer entrance piers and the docking on the east and west side of the inner harbour will be formed, are being constructed at Port Dalhousie by J. H. Tromanhauser & Company, sub-contractors for the Dominion Dredging Company, Limited. Upon completion, they are towed a distance of three miles to the new work and sunk in position. Each crib is built upon a floating pontoon of about 9-foot depth, which is so constructed that, upon completion of the crib, the sides and ends can be released and allowed to float away from the crib, while the bottom, which has been previously ballasted, is released and sinks below the crib. It is afterwards refloated and the several parts are re-assembled for use again. The general dimensions of the cribs are 110 feet long, 38 feet wide, and 34 feet in height, and each crib is divided into eighteen compartments by one longitudinal and eight transverse walls.

A new feature of their construction is the use of temporary wooden bottoms, one to each compartment, which are placed in the completed crib, properly caulked to ensure their being as nearly watertight as possible, and held in place by means of wooden braces and wedges. These bottoms support the crib when the pontoon bottom is removed and are left in place until the crib has been sunk in its final location in the work, when they are released by means of ropes attached to the wedges, and the bottoms float to the top and are recovered for use again. The main advantage derived from this method of construction is that the material with which the crib is filled will rest directly on the lake bottom and afford a much more stable foundation for the cribs than would be the case if they were constructed with fixed bottoms of timber or concrete. It was originally intended that the pontoons upon which the cribs are built should be stripped from the cribs at the building site, Port Dalhousie, but so far it has been found more advantageous to leave them in place during the process of towing to the new work and strip them off immediately before the crib is sunk in position. It is hoped that before long the original idea will be carried out on the remainder of the cribs to be built.

The steel reinforcement in the crib is designed mainly to resist earth pressure from the inside after the crib has been sunk and filled. The outside water pressure exerted during the operation of towing and sinking in place is taken up by a system of temporary interior wooden bracing, which is removed after the crib has been sunk in position. As this pressure is exerted for only a short period, the method adopted accomplishes the desired object, which would otherwise have to be attained by the more costly method of permanent steel reinforcement built into the walls of the crib.

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It was provided in the specifications that each crib should be founded on three rows of short piles on which the front, back and longitudinal walls would rest, but, if it was found that piles could not be driven, the method to be followed was to rest the crib on three windows of broken stone placed under the longitudinal walls in order to give the crib a level bearing. As the lake bottom has been found to be very hard, the latter method has been adopted with success.

The crib seats are prepared by dredging to a little below the elevation of the bottom of the cribs, and the stone is then placed by means of a spouting apparatus rigged up on one of the contractor's scows. The dredge *Dominion*, which was not found to be doing satisfactory work at dredging in the harbour, is being utilized in preparing foundations for and filling the cribs. Each crib contains 934 cubic yards of concrete and 112,000 pounds of reinforcing steel, and weighs approximately 2,000 tons, with some slight variations in the case of some corner cribs, and a few cribs at the outer entrance, which are made stronger on account of their exposed position.

During the season of 1915, eleven of these cribs were built by the sub-contractors, J. H. Tromanhauser & Company, at their works at Port Dalhousie, and three others have been completed since the opening up of work for the present season, this, with the one built during the fall of 1914, making fifteen completed cribs to date. Of this number, five cribs have been sunk in position in the work on the site of the outer entrance piers and six in the inner harbour for the west-side docking. The operation of sinking the cribs, which is accomplished by allowing water to enter through valves in the outer walls, has so far been quite successful, only in one or two cases difficulty being met with in maintaining the proper alignment owing to the weather becoming stormy while the sinking was in progress.

Crib No. 1, which was grounded in the entrance channel all last season owing to insufficient depth of water to permit of it being towed to position in the inner harbour, has not yet been floated, but as the water in the lake this season is almost 2 feet higher than last season, it is not anticipated that any great difficulty will be experienced in floating it, and this will be done in the near future.

Now that the contractors have become thoroughly familiar with the methods and special features of building and sinking these cribs, it is expected that much more rapid progress in their construction will be made during the present season.

The 42 foot reinforced concrete retaining wall on the west side below lock No. 1, which extends from the foot of the lock to a point near the present shore-line, a distance of 1,640 feet, is completed with the exception of portions of four monoliths adjoining the contractors' concrete mixing plant, which are being left until the concreting plant is removed. This wall was described in some detail in my last annual report.

Lock No. 1.—The construction of lock No. 1 is progressing favourably, and has now reached a stage where some idea may be gained of the immense size of these structures.

The method of concreting employed by the contractor is to mix all the concrete, both for the lock and lower entrance walls, at a mixing plant centrally located between lock No. 1 and the lake. The concrete, after mixing, is conveyed in 6-cubic-yard capacity hopper cars to a high travelling tower which moves backwards and forwards in the lock pit close to the face of the wall being built, upon tracks laid in the bottom of the lock chamber. The hopper cars are hauled up an incline attached to the travelling tower and the concrete dumped into a hopper near the foot of the tower, which also has a capacity of 6 cubic yards. While the hopper car is returning for a new batch of concrete and a second hopper car is being brought on to the tower platform, the concrete which was dumped into the tower hopper is being elevated, 1 cubic yard at a time, by a bucket running up and down the tower, which automatically dumps its load at the top into a small hopper connected with movable chutes, by means of which

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the concrete is spouted into position in the wall being built. Two of these towers are now in operation, one on either side of the lock chamber, and have proved to be a very economical method of placing concrete. The towers are quite mobile, and all portions of the wall are thus made readily accessible to one or other of these towers, which can be moved to any desired position with very little loss of time.

The elevation of the mitre sill of lock No. 1 is 212.5 above mean sea-level, which is also the elevation of the floor of the main filling culvert. The coping of the lock wall will be at elevation 294.

The monoliths of the lock walls have been numbered for convenience in recording operations, the monoliths in the west wall being identified by the numbers 0-W to 15-W, and in the east wall 0-E to 15-E, numbering from the foot of the lock.

The lock walls are being built in 60-foot monoliths, and a metal cut-off is provided in the expansion joints between adjoining monoliths, extending from the bottom to the top of the wall. This cut-off consists of two $\frac{1}{2}$ -inch strips of steel plate 6 inches wide, with a 6-inch strip of No. 18 copper rivetted between them. The whole is then bent Z-shaped and built into the wall as concreting proceeds in such a manner as to prevent the passage of water when the joint opens.

During the past season the west wall was brought up to elevation 265, which is the elevation of the floor of the mooring chamber, over practically its entire length, with the exception of the monoliths containing the single leaf and mitering gate recesses, and a good start was made on the construction of the east lock wall. There is still about 35 feet in height to be built on the west wall before the coping is reached, and this 35 feet will contain the mooring chamber, drainage culvert and conduit gallery. Concreting in the west wall is now proceeding in the two monoliths at the foot of the lock which will contain the gate recesses. Upon completion of these to the elevation of the balance of the west wall there will be practically a continuous concrete wall on the west side from the head of lock No. 1 to the lake, a distance of 3,400 feet.

Concreting in the east lock wall commenced in September, 1915, in monolith 14-E at the head of the lock. At this date monoliths 14-E, 13-E, 12-E, 11-E, 10-E, 9-E and 8-E are at elevation 258; 7-E at elevation 244; 6-E, 5-E, 4-E at elevation 212.5, and the foundation for the remainder of the wall is being prepared for concrete.

Lock No. 1 is founded directly on the rock which was found at the required elevation. The rock, however, is a shale or mudstone, which, when exposed, shrinks and disintegrates, but retains its natural characteristics when kept continually wet. It is necessary, therefore, in order to have a firm bond between the concrete floor of the lock and the underlying rock, that the rock should not be exposed until immediately prior to the placing of concrete, and for this purpose it is required in the contract that at least one foot of rock must be left covering the foundation upon which the floor slab will be built, until such time as the contractor is ready to place concrete, when the remaining rock shall be excavated, the surface thoroughly cleaned and immediately covered with concrete.

Owing to the high head of water which will exist at these locks and the possibility of water finding its way from the upper to the lower level through the rock foundation or between the foundation and the floor slab and creating undue pressure on the lock bottom, it is essential that no spaces or cavities should be allowed to exist between the foundation and the floor of the lock, nor in the rock itself, and in order to accomplish this, in addition to the great care which is being exercised in the construction of the lock walls to make certain that they bond thoroughly with the rock, it is proposed to firmly anchor the floor slab between the lock walls to the underlying rock by means of heavy steel anchor bolts, 14 feet long spaced about $4\frac{1}{2}$ feet centres both longitudinally and transversely. These will be sunk about 10 feet into the rock and well grouted in, with the top bent over 90° and imbedded in the concrete of the floor slab. At the head of the lock, immediately below the breast wall, where the pressure

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will be greatest, the spacing will be somewhat closer. After completion of the concrete work, the whole foundation of the lock, to a depth of at least 10 feet into the shale, will be grouted with cement grout under pressure.

The construction of the breast wall at the head of the lock, upon which the upper gates will rest, was carried on simultaneously with the upper monoliths of the lock walls, and was completed during the month of October, 1915. The excavation of the cross tunnel below the lock floor immediately in front of the breast wall was completed during the summer and about half of the trench lined with concrete.

Good progress has been made on the construction of the upper entrance walls to the lock. The east entrance wall is a mass concrete structure throughout, while the west wall is in part a reinforced concrete structure of the counterfort type.

These walls are founded on pile foundations, round timber piles having been driven an average depth of 22 feet through clay and gravel to refusal.

Concreting in the east wall commenced on September 22, 1915, and was carried on continuously during the remainder of the season. The wall is now completed from its south end to the temporary diversion of the Lake Shore road, which is as much as can be done while this diversion is in use.

Work on the west wall was also commenced in September, 1915, but very little progress was made until within the last couple of months.

Immediately above the breast wall, the forebay and entrance walls will be built upon a pile foundation, which is now ready between the breast wall and the N. S. and T. Railway Company's trestle.

Piles have also been driven for the piers of bridge No. 1, and also for the regulating weir.

The concrete substructure of bridge No. 2 was completed in the fall of 1915, ready for the steel superstructure.

Percentage of work completed.—On this section, out of an estimated total of 311,000 cubic yards of concrete, 123,000 cubic yards have been placed; and progress diagrams covering all the work involved, show that 47.5 per cent of the contract is completed to date, and that the contractors are about ten months behind the schedule which would enable them to complete the contract on the specified date, viz., March 31, 1917.

SECTION No. 2.

Section No. 2.—This section comprises all work between station 150 and station 380, 4.36 miles.

Contractors.—Messrs. Baldry, Yerburch & Hutchinson, Westminster, England, and St. Catharines, Ont.

Work Involved.—Excavation of canal prism and building of embankments; construction of locks Nos. 2 and 3 with entrance walls, weirs, etc.; substructure of highway bridges Nos. 3, 4 and 5 crossing canal, and Pond bridges over pondage at head of lock No. 3.

Operations on this section have progressed steadily during the past year, and a large amount of work has been done. The contractors have had four steam shovels and three drag-line excavators of large-bucket capacity employed in the excavation of the canal prism, together with two grading machines, drawn by traction engines, building watertight embankments to confine the waters of the canal and of the pondage at the head of lock No. 2. To date, 4,570,000 cubic yards of earth have been excavated, 2,700,000 cubic yards going to the harbour fills in the lake, 800,000 cubic yards to form watertight embankments, and the remainder in construction railway fills and as backfill in rear of lock and entrance walls.

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The excavating machines were kept employed until well on in January. About January 1, the area between lock No. 2 and the north end of the section was flooded to 3 feet above canal grade, and as the machines there were excavating to grade, it was necessary to suspend operations, and a little later in the month all the excavating machines were laid up for the winter, owing to severe weather preventing the dumping of material in the harbour embankments in the lake. The greater part of the excavating equipment was started up again during April, and concreting was resumed on April 17. The shortage of labour has acted against the contractors' operations to some extent since the opening of work for the present season, with the result that they have not been able to operate at their maximum capacity, but work on the section is now getting generally under way, with the prospect of more settled conditions after the period of unrest among the labouring class during the spring months.

The present status of excavation on this section may be summarized as follows:—

Commencing at the north end of the section, station 150 to station 180, the canal, with centre drainage ditch, is excavated to grade, with the exception of a small amount of material on the west slope required for railway tracks.

From station 180 to station 200 at the head of lock No. 2 excavation is complete to grade.

From station 200, working south, the canal is largely in fill until station 280 is reached, the ground rising gradually and at station 280 running into a very heavy cutting, which continues for a distance of 5,000 feet to the foot of lock No. 3.

Between lock No. 2 and station 297 the excavation is complete, with centre drainage ditch.

From station 297 to station 300 a good deal of material has been left in the prism to carry the diversion of the Queenston road.

From station 300 to the foot of lock No. 3, 3,000 feet, the canal is excavated to approximately elevation 344, grade elevation being at 310.5.

Excavation in the lock pit of lock No. 3 is also down to about elevation 344.

Between lock No. 3, which is immediately north of the present canal, and station 359, a cut has been made from about 35 feet west of the centre line to the west slope, to elevation 370.

From station 363 to station 370 the canal is excavated to elevation 377.

Between station 376 and station 380, which is the south end of the section, the contractors for section No. 3 have excavated to elevation 380 in making an incline to get to the grade of locks No. 4.

The centre drainage ditch referred to is necessitated by reason of the fact that the locks are being constructed to allow of 30 foot navigation while the reaches between locks are being excavated for but 25 foot navigation for the present, and in order to drain the locks when it becomes necessary at any time in the future to unwater the canal, the drainage ditch is being excavated in the bottom of the canal, east of the centre line, between locks. The excavation of this ditch is carried on by the machines after grade is reached in the canal prism. This ditch has also facilitated construction work.

Watertight Banks for Canal and Pondage at head of Lock No. 2.—The construction of the watertight embankments to retain the waters of the canal above lock No. 2 is progressing favourably. The west embankment is completed to grade, elevation 304.5, between station 211 and station 215, station 225 to station 227 and station 242 to station 268. Between these points the bank is built to about elevation 320, with the exception of a short space left to provide a connection with the construction railway. From station 268 to station 272 no work has been done on the bank, as there is a connection here from the canal to the construction railway which will have to remain until the end of next season.

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The east embankment is being constructed on the high ground some distance to the east of the canal prism, thus forming a large basin with an area of about 200 acres which will form the regulating pondage at the head of lock No. 2. No work has been done on this embankment between station 198 and station 200. From station 200 to station 210 the bank is built to elevation 322. From station 210 to station 282 the bank is built to grade, elevation 340.5.

The work on these embankments is being carried on by the several outfits of grading machines. These machines, working in the canal prism, plough up a furrow which is carried on an inclined belt conveyor and dumped into wagons driving alongside. The wagons haul the material to the embankments where it is dumped in layers of about 8 inches in thickness, which are well watered and compacted by the teams and loaded wagons driving over them, thus ensuring a thoroughly watertight bank.

Watertight Bank for Pondage at Head of Lock No. 3.—Of the portion of this embankment, 1,400 feet long, which follows along the Homer road, a section 800 feet in length is built to elevation 376 at the north end and to grade, elevation 387, at the south end. The seat is prepared for the portion extending from the Homer road in an easterly direction and forming the north bank for the pond, and about 500 feet of this portion is built to elevation 377.

Lock No. 2.—This lock is located about 9,000 feet south of lock No. 1. In order to reach a stable foundation for this lock, it was necessary to carry the lock walls down a considerable depth below the required elevation of the lock bottom. This was done by excavating trenches 52 feet wide and averaging 17 feet in depth, below the general level of the lock pit to the hard Medina shale upon which the walls are founded, and filling these trenches with concrete, thus forming a substantial subfoundation for the main walls. As the underlying shale is of a seamy nature and liable to disintegrate under exposure, it was required of the contractors that the rock foundation should not be entirely exposed until immediately preceding the placing of concrete, and that before concreting was commenced the bottom should be thoroughly cleaned of all loose material in order to give a firm bond between the rock and the concrete. As a precaution against water finding its way under the lock foundation from the reach above and exerting an upward pressure against the walls and floor, it was decided to thoroughly grout the rock below the subfoundations with a sand and cement mortar and thus stop up as far as possible all water-bearing fissures. The excavation of the lock pit and trench for subfoundations was carried on during the season of 1915 by one drag-line excavator and one steam shovel, and the work was completed to grade during October. While making the final cut for the subfoundations the excavating machines were closely followed by drills making holes in the rock. These holes were drilled 3 inches in diameter, 12 feet deep, and spaced 10 feet apart in two rows, one under the toe and the other under the heel of the walls. After the holes had been thoroughly cleaned out, grout was applied under pressure by a hand diaphragm pump acquired for the purpose. In all, about 400 holes were drilled in the two subfoundations, of which 50 per cent took grout readily, varying in amount from one gallon to 180 gallons. That the grout was finding its way through the seams was clearly evidenced by its appearing in many cases in adjacent holes. Investigation showed what had originally been a water-bearing seam, completely filled with the cement grout. Concreting in the subfoundations followed immediately after the grouting operations and was completed to the floor level of the lock in both walls before the close of the season, with the exception of short portions of the north end of the walls.

A new concreting plant for this lock was brought into operation in the spring of 1916. It consists of two 2-cubic-yard batch mixers located at the north end of the

lock, with an overhead equipment for the handling of stone, sand and cement directly from the cars. The mixed concrete goes from the mixers into bottom-dumping buckets on flat cars, which are hauled by locomotives to travelling derricks which place the concrete in the walls.

The mitre sill of lock No. 2 will be at elevation 259, and the height of the various 60-foot monoliths in the lock walls to date is as follows:—

Monolith No.	Elev.	Monolith No.	Elev.
1 W.	No concrete.	1 E.	No concrete.
2 W.	247'0	2 E.	247'0
3 W. to 9 W. (incl.).	259'0	3 E.	259'0
10 W.	265'0	4 E.	253'3
11 W.	259'0	5 E.	252'7
12 W.	296'0	6 E. to 11 E. (incl.).	259'0
13 W.	261'0	12 E.	260'0
14 W.	301'5	13 E.	259'0
15 W.	259'0	14 E.	286'5
		15 E.	256'5

The cross tunnel below the breast wall and a section of the lock floor between monoliths 15E. and 15W. were built during the fall of 1915.

No further work has been done on the breast wall at the head of the lock during the past year. This wall is at present built to elevation 295'5, there remaining a lift of about 10 feet to complete it.

Concreting in the upper entrance walls progressed steadily during 1915, operations for the season being suspended on December 22.

The upper west entrance wall, which is of gravity section 722'5 feet long, with flare wall, was completed during August, with the exception of the forebay monoliths. The east wall, of gravity section, 333 feet long without flare wall, has no completed monoliths as yet, monoliths 2, 3, 4, and 5 being 18 feet below coping elevation; monolith 6, 12 feet; and monolith 7, 6 feet. No work has been done on the east wall since August, 1915, but it will be completed when, for any reason, the contractors are delayed in their operations on the lock walls. These entrance walls are founded on round piles driven through stiff material to refusal.

All of the piling for the foundation of the upper forebay has been driven, except a small area occupied by the contractors' concreting plant, and concreting is now in progress on the monoliths of the forebay walls which will connect the upper entrance walls with the lock walls.

One small steam shovel was employed during the past season excavating the channel for regulating weir on the east side of lock No. 2, the material being disposed of, by means of dump wagons, in the east watertight embankment above the lock. This excavation was completed in October.

Lock No. 3.—The site of this lock is about two and one-half miles south of lock No. 2, and immediately north of the present canal, which the ship canal will cross at this point. The construction of the foundation will be very similar to the construction of that of lock No. 2, as the conditions as regards nature of materials, depth to rock, grouting of foundations, etc., will be very much the same.

The driving of steel sheet piling, preliminary to the excavation of the breast wall pit at the head of the lock started in June, 1915, and was completed during September. The material encountered was somewhat similar to that found at lock No. 2, namely, blue clay of variable texture for some depth from the top, then sand and hard-pan. In the east half of the pit the 45-foot lengths of piling were of sufficient length to reach the hard-pan foundation, but in the west half a soft sandy clay was encountered below this level, and additional 11-foot 3-inch lengths of piling were driven, on top of the long piles, forcing the latter down to rock foundation. Considerable difficulty was experienced from the flow of water into the pit, as, although small in quantity, it carried sand with it, but this was overcome by confining it to a sump at the west end, and from there pumping it into the present canal during the construction of the

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breast wall. On account of the stiff nature of the blue clay in the upper part of the pit it was found impossible to excavate by means of a clam shell, which had been rigged for the purpose, and the excavation was, therefore, carried on by hand. This was completed during the summer, after which the underlying shale foundation was drilled and grouted, and concreting in the pit commenced November 2 and continued until February 16, by which time the wall was within 3 feet of the ground surface. Steam and tarpaulins were employed during freezing weather and no trouble experienced from frost. No further concrete operations will be carried on at lock No. 3 during the present season as the lock pit excavation will not be completed till late in the fall, and the contractors intend concentrating all their efforts on the construction of lock No. 2.

Miscellaneous.—Owing to the soft nature of the blue clay in the deep cutting near the village of Homer, a double row of round piles was driven along the berm with a view to protecting the bank against movement and possible slides in this material. This work was carried out by the contractors during the past season, piles being driven for a distance of 900 feet on the east berm and 600 feet on the west berm at 6-foot centres, with an average penetration of about 26 feet.

Sodding of canal banks and sides of drainage ditches has progressed during the year, and considerable fencing along the canal right of way has been completed.

Some concrete protection to slopes of banks at the water-line has been placed.

The bearing piles required in the foundation of bridge No. 4, which will carry the Queenston road over the canal at the village of Homer, were all driven in the fall of 1915 and the concreting in the abutments commenced October 26 and was continued until the latter part of December. Work was resumed during May and the abutments are now well advanced toward completion.

Progress diagrams of this section show that 45 per cent of the contract is completed to date and that the contractors are about twelve months behind the schedule which would enable them to complete the contract on the specified date, viz., March 31, 1917.

SECTION No. 3.

Section No. 3.—Comprises all work between station 380 and station 490, about two miles.

Contractors.—Messrs. O'Brien & Doheny and Quinlan & Robertson, Montreal, Que.

Work Involved.—Excavation of canal prism and lock sites, comprising the removal of approximately 2,700,000 cubic yards of rock and 3,400,000 cubic yards of earth; construction of twin locks in flight Nos. 4, 5, and 6; single lock No. 7, and masonry for guard gates, involving the placing of 1,250,000 cubic yards of concrete masonry; building of large earth dam with concrete corewall at head of flight locks; diversion of Welland division and main line of Grand Trunk Railway; crushing and furnishing of about 1,000,000 tons of crushed stone to contractors for sections Nos. 1 and 2; and other miscellaneous works.

As stated in my last annual report, the railway diversions referred to are completed and the new lines now in regular operation.

The excavation of the canal prism and lock sites has been carried on almost continuously by the contractors during the past year with eight steam shovels and a large equipment of engines, dump cars, etc., two large steam shovels having been added to the contractors' excavating equipment during the war. Of the total estimated quantity of material to be excavated on this section, to date 1,950,000 cubic yards of earth and 1,100,000 cubic yards of rock have been removed.

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The general progress of excavation on the section may be indicated as follows:—

From the north end of the section to the foot of twin locks No. 4, a distance of about 2,000 feet, the excavation is entirely in earth, the estimated quantity of material to be removed in this area being about 1,000,000 cubic yards. The contractors commenced work in this material in June, 1915, with one steam shovel, another shovel being added later in the season. One shovel has been operating in this area since the opening of the present season's work, and to date 250,000 cubic yards of earth have been excavated, the material being hauled to lake Ontario over the construction railway and disposed of in the east harbour embankment.

Twin Locks No. 4.—On the site of these locks practically all of the excavation to date has been in earth as there is a large amount of clay overlying the rock. After this earth excavation is completed there will remain about 60 feet of solid rock excavation at the south end of the lock, this diminishing to about 20 feet at the north end, before the grade of the locks is reached. It is anticipated that considerable of this rock will be of a quality suitable for crushing for concrete, but there will be a large quantity of unsuitable shale and it is required in the contract that this material shall be hauled to lake Ontario and deposited as stone protection along the slopes of the harbour embankment; 210,000 cubic yards of earth have been removed to date, the material being dumped as filling in the valley of the ten-mile creek on the east side of the canal.

Twin Locks No. 5.—The overlying earth material (84,000 cubic yards) has all been removed from the site of these locks, and rock excavation has been continuously under way since January, 1915. To date, 590,000 cubic yards of rock have been excavated, the good rock being sent to the crushing plant, and the poor wasted in the valley of the ten-mile creek.

Twin Locks No. 6.—135,000 cubic yards of earth, overlying the rock, were excavated from the site of these locks, and the machines have been continuously engaged in rock excavation during the past year. The east lock chamber is now complete to grade and the west chamber almost to grade, 270,000 cubic yards of rock having been removed, the bulk of it going to the crusher or into storage piles to be crushed later.

Reach between Twin Locks No. 6 and Single Lock No. 7, 2,000 feet. This area required little excavation except at the foot of lock No. 7 where the rock crops up, and has been utilized principally as a quarry for the excavation of large pieces of stone. The contractors for section No. 3 quarry this stone and load it on to cars supplied by the contractors for sections Nos. 1 and 2, who haul it to their works and use the stone as fillers or "plums" in their concrete.

To date, about 65,000 tons of "plums" have been excavated for use on sections Nos. 1 and 2.

Single Lock No. 7.—About 50 feet in depth of clay (240,000 cubic yards) has been removed from the site of this lock, to rock surface, elevation 545, grade of the lock chamber being 491.5. No rock excavation has been carried on as yet. It is anticipated that about 18 feet in depth of the rock from this site, being a hard gray limestone, will be of good quality for concrete. The underlying rock is not of the best quality and will probably be wasted.

Reach between Lock No. 7 and Guard Gates.—One shovel was employed here during the whole of last season excavating earth to rock surface, 278,000 cubic yards of clay having been removed to date. The amount of rock excavation here will be comparatively small as the rock slopes down below canal grade at about the middle of this area. The excavated material has all been used in the watertight embankment for the high dam at the head of locks No. 6.

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Guard Gates to South end of Section.—No work had been done between these points until May, 1916, when the contractors started one steam shovel excavating clay. There is about 40 feet of earth and rock excavation here, with the clay overlying the rock to a depth of approximately 25 feet. This material is being disposed of in the dam at head of locks No. 6 and will also be utilized for back-filling behind lock and entrance walls. The underlying rock is limestone of good quality and will be available for concrete this fall.

Drilling and Channelling.—The three large Keystone and three Cyclone drills, operated by electricity, have worked throughout the year drilling blast holes for the heavy rock excavation on the sites of locks Nos. 4, 5, and 6; a number of tripod drills, air driven, have also been employed close drilling along side walls for gate recesses; shallow drilling to grade in lock No. 6, and drilling in the "plum"-quarry at the lower entrance to lock No. 7.

The four channelling machines have also operated steadily in locks Nos. 5, 6, and 7, making cuts along the side walls to the final lines of excavation and for the breast wall and cross tunnel trench at the head of locks No. 6. This method of obtaining a good vertical face without danger of shattering and disturbing the rock outside of the contemplated side lines is proving very satisfactory, especially in view of the variable nature of the rock encountered in the excavation. These machines average about 180 square feet of channelling per 10-hour day.

The blasting operations of the contractors have been carried on in such a way as to give cause for very little further complaint from residents in the vicinity.

Rock Crushing Plant.—The crushing plant erected by the contractors, under the their contract, to crush rock from the excavation for use as concrete aggregate on sections Nos. 1 and 2, has operated fairly satisfactorily during the year and sufficiently to cause no delay in the supply of crushed stone to the sections mentioned. Some delays in the operation of the plant have occurred by reason of accidents to machinery and necessary changes in equipment with a view to obtaining a more satisfactory product, but, as events have developed, it is not anticipated that, with the output of the crusher and the supply from the large stock pile of crushed stone which has been formed, there will be any shortage of stone for sections Nos. 1 and 2 in their operations during the present season.

During the delays in the operation of the crushing plant, rock from the excavation has been disposed of in storage piles in the vicinity, and considerable of this rock was later rehandled and put through the crusher.

The stock pile of crushed stone has been added to considerably during the year and contains at present approximately 150,000 tons of stone.

Crushed Stone.—The quality of the rock excavated from the sites of locks No. 4, 5, and 6 has not turned out as satisfactory as was hoped, and for the past few months no rock of sufficiently good quality to be crushed for concrete has been excavated. Preparations are now being made to excavate and crush the good rock which is exposed on the site of lock No. 7, and a shovel has been started stripping the clay overlying the rock south of the guard gates. There is quite a considerable quantity of excellent hard limestone in this portion of the canal prism, which will be available for crushing during the autumn months.

During the fall and winter of 1915-16 the crusher was kept going to a partial extent by crushing the rock which had been placed in storage during 1915 at times when the capacity of the crusher was not equal to that of the excavating machines. Only a small portion of this now remains to be crushed.

Washing Plant.—On account of the large amount of shale and dirt which is mixed with the rock as it comes from the excavation and of the difficulty in adjusting the

crushing plant in such a way as to properly eliminate same, it was decided last fall to build a plant immediately adjoining the crusher for the purpose of washing the crushed stone. This work was carried on during the fall and winter and the plant is now in operation. It is proposed to wash all the crushed stone in the present stock pile, and any stone which in future may require it immediately after it is put through the crusher. The washing plant has been designed so that stone from the stock pile can be dumped into a hopper located at one side of the plant and be carried up by a bucket conveyor to the washers, and on the other side stone can be brought on a belt direct from the crusher to the washers. Cylindrical washing machines were first experimented with in washing the stone, but these were not satisfactory and were expensive to operate, and gravity chutes, of our own design, have been substituted; as the stone passes down these chutes it is thoroughly sprayed with water. This method of washing is operating very satisfactorily and producing a good concrete stone. A gravity water supply for washing the stone is obtained from the present canal immediately above lock No. 24 through a 12-inch cast-iron pipe-line, and the waste water is carried to the Ten-mile creek, after depositing its burden of sludge in a settling basin in low ground near the plant.

Dam at Head of Locks No. 6.—This dam, which will be 75 feet at its highest point and 3,300 feet long, extending from the head of locks No. 6 across the present canal to the high ground on the east side, forming a pondage of 84 acres for regulating the supply of water to the flight locks, is built with concrete core-wall and selected material from the excavation to form a thoroughly watertight embankment. The excavated material is dumped outside the dam site along both sides and rehandled into the dam by means of two drag-line excavators fitted with clam shell buckets. These machines have operated steadily during the working season rehandling 149,000 cubic yards of material into the dam, and for a length of 700 feet the dam is now built up to within 10 feet of final elevation, the other sections being in a lesser stage of advancement. Dredged material from section No. 5 is being brought down the canal in scows and dumped on the site of the dam across the pond above lock No. 19 of the present canal. For this purpose the towpath bridge above lock No. 19 was removed and a floating bridge put in its place to enable the tugs and scows to get through into the pond.

A row of triple lap sheet piling, overlapping the concrete corewall about 50 feet, is being driven between the end of the corewall and the weir at lock No. 19 as a cut-off under this portion of the dam, and this piling will eventually be carried across the canal to the east end of the dam.

Concreting in Entrance Walls.—Concreting operations on the upper entrance walls to locks No. 6 and upper east entrance wall to lock No. 7 were carried on during the season of 1915. The upper west entrance wall of locks No. 6 was entirely completed; also the upper east entrance wall, with the exception of a small portion at the south end. Portions of the upper forebay walls of locks No. 6, including some of the gate recesses, were also built during 1915. The west entrance wall is built on a natural clay foundation, with the toe, however, carried down to rock in a 6 foot trench, while the east entrance wall, on account of the greater depth of the rock surface, was built on a pile foundation.

A 2-cubic yard drum mixer was used in the construction of these walls, the concrete being placed by means of buckets handled by derricks. The mixing plant used is being superseded by a new arrangement not yet completed.

For concreting the upper entrance walls of lock No. 7 and the guard gates, the contractors built a travelling tower, somewhat on the lines of that in use on section No. 1, which moves along close to the face of the wall to be built, on tracks laid on the bottom of the canal. The concrete is elevated in the tower and spouted by means of a short movable spout to its desired place in the wall.

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Concreting in the upper east entrance wall commenced on November 17, 1915, and was carried on until December 14.

No concrete has been placed on section No. 3 so far this season.

Pondage at Head of Lock No. 7.—The construction of watertight embankments to form pondage at head of lock No. 7 was completed last season; also the two short reinforced concrete bridges to carry existing roadways over the pondage, macadamizing of roads, fencing, etc.; and the culvert under the canal was blocked and the waters of this portion of the Ten-mile creek are now absorbed in the present canal. The resulting 20 acres of pondage will be of service in equalizing levels when the ship canal is in operation.

Bridge No. 9.—The erection of the steel swing span to carry the Niagara, St. Catharines and Toronto Railway over the canal at the site of the guard gates south of Thorold, under contract to the Hamilton Bridge Works Company, Limited, has been completed and the railway will shortly be turned over the new structure.

Progress diagrams of work on this section indicate 28 per cent of the contract completed to date, and that the contractors are about eighteen months behind the schedule which would enable them to complete the contract on the specified date, viz. March 31, 1917.

SECTION No. 4A.

Section No. 4A.—This section comprised certain small pieces of work which were to have been included in the contract for section No. 4, but which could not be deferred when it was decided to postpone the letting of further general contracts.

Contractors.—Messrs. Maguire & Cameron, St. Catharines, Ont.

All work under this contract was completed in 1915 and the different structures brought into use.

The final estimate for this section totalled \$75,284, which is over \$12,000 less than my original estimate.

SECTION No. 5.

Section No. 5.—Comprising all work between Allanburg and Port Robinson, a distance of 2.6 miles.

Contractors.—The Canadian Dredging Company, Limited, Midland, Ont.

Work Involved.—Excavation of approximately 5,400,000 cubic yards of earth and 75,000 cubic yards of rock; construction of concrete substructure for bridge No. 13; concrete protection to banks, and other miscellaneous works.

This section covers that portion of the present canal through what is known as the "deep cut" between Allanburg and Port Robinson, which is to be widened on the west side and deepened to the new dimensions. The rock to be excavated is in the channel below the grade of the present canal near Allanburg.

The bulk of the excavated material is being disposed of on low-lying lands on the west side of the canal below Allanburg, including the bed of the old canal. To accomplish this, long embankments have been built with dry material excavated from the section by steam shovels, enclosing areas of low ground, and these areas are being filled to towpath level by a hydraulic dredge. The material excavated by the dipper dredges in widening and deepening the section is dumped in front of the hydraulic dredge, which transfers it to these areas. The excess water, after settlement, returns to the canal in a fairly clear condition. This method will reclaim and render valuable a considerable extent of otherwise practically worthless land.

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The dry excavation on the section is nearing completion, there remaining only about 50,000 cubic yards to be removed by the steam shovels. Four 60-ton shovels were employed last season until September, working day and night shifts, and since that time three shovels have been operating, working days only, as weather permitted, about 900,000 cubic yards of material having been removed during the year.

The dredging plant consists of three dipper dredges, one clam-shell dredge, one 20-inch hydraulic dredge, and one drill boat, together with the necessary complement of tugs, scows, etc.

During the year, the dipper dredges *Monarch*, *Sydenham*, and *Chief*, and the clam dredge *Leland*, have operated in the canal prism, and removed approximately 780,000 cubic yards of material. The greater part of this was taken to the pumping basin (which was excavated in the canal bank early last season) and dumped in front of the hydraulic dredge *Primrose*, which has worked day and night pumping the material into the north and south ponds between the present and the old canals. Of the balance a small portion was taken to lake Erie and the rest dumped directly from scows in the south pond, to which entrance was gained by a cut through the towpath of the present canal.

The drill-boat *Rock King* commenced work on September 1, 1915, drilling and blasting the rock in the bottom of the canal prism near Allanburg, and continued till December 24, when work was closed down for the winter. Operations were started again on May 1 of the present year. About 27,000 cubic yards have been drilled and blasted, of which approximately 14,000 cubic yards were removed during the season of 1915 by the dipper dredge *Monarch*. This was disposed of in lake Erie and in the pond near lock No. 19 of the present canal on the site of the dam at the head of locks No. 6 on section No. 3. The rock has been found very refractory and acts very badly from a contractor's standpoint.

In order to reduce the length of discharge pipe from the hydraulic dredge *Primrose* required to fill the north pond, a new pumping basin was excavated about three-quarters of a mile north of the old basin, in which the dredge is now working.

Work on concrete protection to banks was commenced in August, 1915, on the west side of the canal at Port Robinson, and 2,300 lineal feet have been completed. A concrete boat-landing and stairway was also constructed immediately north of bridge No. 13 at Port Robinson. The canal has now been widened at this place and the completed work has a very good appearance.

In an endeavour to prevent slides in soft material a row of piles was driven along the berm on the west side between station 742 and station 772, in the same way as described on section No. 2.

Trimming and sodding of the excavated slopes has been carried on during the year, as weather condition of the slopes permitted.

Bridge No. 13.—This structure having a clear span of 200 feet will take the place of the present highway bridge at Port Robinson. The substructure will consist of two main wing abutments with a small approach abutment on top of the bank on the west side. Work on the foundation for the west abutment was commenced in July, 1915. The pit was excavated to a depth of 12 feet, after which triple-lap sheet piling was driven around the site to form a cofferdam to hold out both clay and water. Before further excavation was carried on, bearing piles, of which 411 are required for this abutment, were driven within the cofferdam through blue clay, sand and hard-pan. A long follower was used and the pile heads were driven to grade. Pile-driving was completed early in the present season and the excavation of the pit is now being proceeded with. No work has been done on the east abutment to date.

A fire on June 2, 1915, of unknown origin, although probably started by a locomotive cinder, destroyed the building, with the exception of the outside walls, which was in use as office quarters for the staff on this section. All of the records were saved, and the greater part of the other miscellaneous contents. During the summer the building was rebuilt, and reoccupied in October.

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CONSTRUCTION RAILWAY.

Progress diagrams indicate 52 per cent of this contract completed to date.

Construction Railway.—This is a double-track line paralleling the canal from lake Ontario to the lower end of section No. 3, a distance of about $7\frac{1}{2}$ miles, built by the department, complete with block signal and telephone despatching systems, for the purpose of hauling excavated material from sections Nos. 1, 2 and 3 to the harbour embankments in the lake, and for the hauling of crushed stone and "plums" for concrete from section No. 3 to sections Nos. 1 and 2.

The railway has been in continuous operation during the past year, and during the working season was taxed nearly to capacity by the large amount of traffic passing over it. During the year covered by this report 1,700,000 cubic yards of excavated material have been handled over the railway to the harbour embankments, 270,000 tons of concrete stone hauled to section Nos. 1 and 2, together with considerable material deposited as back-fill behind lock and entrance walls, and other miscellaneous freight. As an instance of the volume of traffic handled over the railway during the busy season, in the month of July, 1915, 5,917 trains, including both loaded and return empties, were moved, this averaging 228 trains per day, or one train every six minutes day and night. As many as 360 trains have been handled over the line in one day of twenty-four hours.

A section gang has been employed maintaining the track and roadbed in a state of efficiency; and during the year the whole operation of the railway has progressed very satisfactorily. In spite of the heavy traffic no accidents have occurred, outside of a few of a minor nature entailing no serious results.

Sand.—As stated in my last year's report, the problem of obtaining a first-class sand was an exceedingly difficult one to solve, and the variable nature of the sand which was being obtained from the St. David's pits caused an endless amount of trouble to ourselves and to the contractors.

There were rumours of a sand deposit in lake Ontario, near the mouth of the Niagara river, but the contractors had already investigated so many alleged sand deposits in the lake that they did not think it worth while trying any more. As the sand problem was quite serious at the time, and as the contractors claimed that no really suitable sand was available outside of the pits which they controlled, I decided that while there was any chance of lake sand being obtained every effort should be made to locate suitable deposits. I therefore rented a small sand-pumping outfit and a tug fitted with a small water jet and had the mouth of the Niagara river thoroughly investigated, with the very pleasing result that an enormous deposit of sand was located. This deposit was investigated far enough to show that there was at least sufficient of good quality to supply all the requirements of the ship canal.

A considerable quantity of the sand examined was found to be too fine for concrete work, but there was also a very large quantity of coarser sand. All the information obtained was handed over to the contractors, and they immediately rented an outfit to investigate this sand deposit, and satisfied themselves as to the quantity and nature of the material. They then entered into a contract with La Cie Generale d'Entreprises Publiques, and this company, since May, 1916, has been supplying sand from this locality and delivering it into a large bin erected on the harbour embankment at Port Weller. Occasionally, at first, parts of scow loads of sand would be of a rather fine character, but the quality has been steadily improving and at present a splendid sample of clean sharp coarse sand is being delivered, and the sand problem is now considered to be settled and should give no further cause for worry during the continuance of the work.

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Pipe-line for Water Supply.—The experimental 300-foot section of reinforced concrete pipe, 48-inch diameter, mentioned in my last annual report, was built at Port Colborne and some tests made on it. As, however, the waters of the Welland river cannot be turned into the canal until section No. 7 and other sections on the summit level are well under way, and as the contracts for these sections have not yet been let, and in view of the shortage of labour and high price of material, it will be in the best interests of the department to allow the pipe-line construction to stand over until such time as the main contracts on the summit level are awarded.

Miscellaneous Contracts.—The only miscellaneous contracts of any importance awarded during the year are as follows:—

September 25, 1915.—W. E. Dillon & Co., Toronto, supply and delivery of 400 sections of metal cut-off for expansion joints.

February 23, 1916.—Standard Clay Products, Ltd., St. Johns, Que. Supply and delivery of 56,400 duct feet of vitrified clay conduit for electrical installations in lock chambers.

May 15, 1916.—Peck Rolling Mills, Ltd., Montreal, supply and delivery of 3,679 steel anchor bolts (550,135 pounds) for floor of lock No. 1.

All of these have been satisfactorily completed.

Staff.—The following is a full list of members of the staff who have been granted leave of absence for overseas military service:—

R. C. Morgan	Transitman,	Head office.
H. M. Campbell	Draughtsman	"
G. M. Hamilton	"	"
A. W. L. Butler	Assist. Engineer	"
J. W. Perkins	Draughtsman	"
Roy G. Sneath	"	"
D. Lauder	Chauffeur	"
J. B. McAndrew	Instrumentman	"
J. F. Pringle	Assist. Engineer	"
O. W. Ross	Transitman	"
A. G. Riddell	Mechanical Engineer	"
W. Kiddell	Picketman, Survey Party.	"
C. J. Swift	Instrumentman, Section No. 1.	"
W. W. Wallace	Leveller	"
E. O. Holt	Rodman	"
F. Ellis	Axeman	"
St. B. Sladen	Instrumentman	"
H. Wallace	Inspector	"
E. R. Bradley	Rodman	"
C. W. Tilbrook	Inspector	"
H. S. Clark	Instrumentman, Section No. 2.	"
S. Dicks	Rodman	"
J. Richards	"	"
M. J. Gordon	Leveller	"
F. N. Waite	Rodman	"
R. A. Bradley	"	"
E. P. Muntz	Assist. Engineer	"
J. C. Ball	"	Section No. 3.
D. Clark	Time-keeper	"
R. Raynor	"	"
D. C. Spears	Rodman	"
R. E. Smythe	Instrumentman	"
S. F. Speck	Inspector	"
M. B. McLean	Instrumentman	"
H. Barrett	Axeman	"
L. Battle	Stenographer	"
J. F. Rees	Chainman	"
I. H. Dawson	Assist. Engineer, Section No. 5	"
L. B. Adams	Transitman, Section No. 9.	"
T. E. Jones	Operator, Con. Railway.	"
E. C. Harris	"	"
(Killed in England during Zeppelin Raid.)		
Phillip Brett	Operator, Con. Railway.	"
(Invalided home.)		

In addition to the above, eighteen members who were not eligible for leave have resigned and joined the overseas forces.

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Others have resigned in order to better their positions, with the result that the remaining members of the staff, even with the assistance of new hands taken on since the outbreak of the war, find it very difficult to keep pace with the progress of the work.

I am, sir,

Your obedient servant,

J. L. WELLER,
Engineer in Charge.

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REPORT OF SUPERINTENDING ENGINEER, WELLAND CANAL.

St. CATHARINES, June 30, 1916.

SIR,—I have the honour to submit my annual report on the maintenance and operation of the Welland canal and its branches for the fiscal year ended 31st March, 1916.

NAVIGATION SEASON.

The canal opened to navigation on the 15th April, and closed to through navigation on the 15th December, 1915. It was arranged, however, to pass the steamer *Hamiltonian* through on the 17th and 18th of December. The canal between Port Colborne and Welland remained open until the 22nd of December, and between Allandale and lock 19, until the 1st January, 1916.

ACCIDENTS.

There were no accidents or breaks of any importance.

On the 22nd November, 1915, the steamer *H. G. Dalton* downbound, received some minor injuries through striking a ridge of rock a short distance south of Allandale bridge, turned up by a dredge working on section No. 5 of the Welland ship canal.

Bridge 11, carrying the Welland division of the G. T. R. over the canal a short distance south of Thorold, was slightly damaged by a car being derailed. Repairs were made by and at the expense of the railway company.

SLIDES.

The remainder of the slide, which occurred on the 4th December, 1914, in the westerly bank of the summit level, about one-half mile north of the air line railway bridge, was removed shortly after the opening of navigation by the Canadian Dredging Company, a contract with them having been entered into.

IMPROVEMENTS—NEW CANAL.

At the opening of the 1916 season of navigation the Gowan lock gate safety device had been installed on the head gates at locks Nos. 5, 7, 9, 10, 17, 18, 19, 20, 21, 23, and 24.

During the summer, a bracketed sidewalk, 6 feet clear width, was erected on the Niagara Street bridge over the canal, in the city of St. Catharines.

IMPROVEMENTS—OLD CANAL.

The steel highway swing bridge, known as Marlatt's bridge, over the old canal, the work on the ship canal having rendered it of no further use, was moved down by scow to a new crossing over the old canal at Lyndon street, Thorold, and placed on concrete piers built to receive it. A fixed span of reinforced concrete was built at each approach. As the reinforced concrete floor slab of the steel bridge is still uncompleted, the bridge has not yet been opened to traffic.

PORT COLBORNE.

The government grain elevator in 1915, for the first time since its erection in 1908, showed a decrease in business, due to scarcity of canal tonnage and to shortage

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in ocean bottoms out of Montreal, caused by war conditions; 28,733,822 bushels of grain were received as against 38,604,140 bushels in 1914 and 21,441,826 bushels in 1913. The net earnings were \$73,093.14 as compared with \$103,822.49 the previous year and \$53,047.06 in 1913.

The addition to the elevator, giving a total storage capacity of two million bushels, was completed during the year.

REPAIRS—NEW CANAL.

Ordinary repairs to the structures on the new canal were carried out as usual. The wooden floor of the highway bridge carrying Ontario street over the by-pass to lock No. 3 weir was replaced by a reinforced concrete floor slab supported on steel I-beams. The wooden float connecting the harbour at Port Dalhousie with the by-pass below lock No. 1 weir was replaced by a wooden, single-leaf, hinged, foot bridge. The superstructure of the wooden bridge supported on bents carrying the travelled highway over the by-pass leading to lock No. 1 weir was renewed in wood. The stone abutments of the heelpath bridge at the head of lock No. 8, which were undermined and in an unstable and tumble-down condition, were rebuilt partly in concrete and partly in masonry; the centre pier, which also was ready to fall over, was removed, and the two fixed spans were replaced by a wooden float suitable for foot traffic. Foot bridges over the weirs at locks Nos. 13, 14, 17, and 22, and a road bridge over lock No. 15 weir, which were decayed and unsafe, were renewed by reinforced concrete bridges during the year. Lock No. 20 was unwatered in March, 1916, and the foundations of the upper and lower recesses, which has been undermined, repaired in concrete. Lock No. 21 was also unwatered during the spring of 1916 and repairs in concrete made to part of the foundation of the lower recess, where a leak of considerable size had developed.

REPAIRS—OLD CANAL.

The old canal was unwatered from the 6th June to the 16th June, inclusive, and repairs were made to the underwater structures. Mill owners took advantage of the unwatering and made necessary repairs. The usual repairs to the works on the old canal were made during the year. Foot bridges over the weirs at locks Nos. 8, 9, 10, and 11, which were in an unsafe condition, were replaced by reinforced concrete bridges.

The work which was begun the previous year, of building a reinforced concrete bridge of fixed span to replace the highway swing bridge over lock No. 24, old canal, at Thorold, was completed.

A reinforced concrete foot-bridge was built over the hydraulic race in St. Catharines, near lock No. 4, replacing a wooden bridge which was decayed and in a bad state of repair.

The wooden spillway connecting hydraulic races Nos. 2 and 3 near the Canada Haircloth Company's plant, which was in a bad state of repair, was renewed.

The city of St. Catharines completed the St. Paul Street high-level bridge over the old canal. It is a steel structure of nine spans founded on concrete piers.

WELLAND CANAL FEEDER.

The freshet in the Grand river this spring (1916), did considerable damage to departmental works at Dunnville. The principal damage was caused by ice, which was very heavy. The water did not reach the height it did in the 1912 and 1913 floods. Two bents or three spans of the highway bridge over Sulphur creek, and two bents, four spans of the long bridge or dam were carried out, completely interrupting vehicular traffic. Several gates of the dam and flash boards of the weirs were also washed

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away. Considerable damage was also done to the remaining bents and foundation cribs. About 550 lineal feet of a new reinforced concrete "L" post railing along the embankment were very badly damaged. A reinforced concrete platform on the northerly side of the Dunnville lock connecting the easterly and westerly recesses was built, replacing the old wooden platform which was badly decayed and unsafe.

The easterly highway swing bridge (wood) over the feeder at Stromness was replaced by the swing bridge (iron bottom chords) which was formerly over the old canal immediately below Allanburgh lock (lock 26), being rendered available by Welland Ship Canal work, and the decayed wooden centre pier and abutments were renewed in concrete.

The feeder junction waste weir, which became undermined by a leak under the breast-wall, was repaired, necessitating the unwatering of the feeder for several weeks. The large hole caused by the leak and the aprons were concreted. The road bridge at this weir was renewed in wood; the wooden valve stringers were replaced by reinforced concrete beams and new valve winches installed.

GENERAL.

The water in lake Ontario during the 1915 season of navigation averaged 1.03 feet lower, and that in lake Erie 0.48 foot lower than during the 1914 navigation season.

Owing to the war, military forces continued to guard vulnerable points on the present canal.

The following superannuated employees died during the year:—George Thompson, Bart. O'Leary, T. L. M. Tipton, Michael Corcoran, Frederick Lay, Alexander Hannah, Terrance Johnson, Charles H. Collier.

Attached is a statement of moneys collected for fines and for damages to canal property by different vessels, etc.; also a statement showing the highest and lowest recorded depths of water for each month on the mitre sills of the locks at Port Dalhousie and Port Colborne.

Respectfully submitted,

L. D. HARA,
Acting Superintending Engineer.

WELLAND CANAL.

Statement showing the highest and lowest depths of water on the lower mitre sill, lock No. 1, new Welland canal, Port Dalhousie, for the fiscal year ending March 31, 1916:—

Months.	Lower Sill.		Months.	Lower Sill.	
	Highest.	Lowest.		Highest.	Lowest.
1915	Ft. In.	Ft. In.		Ft. In.	Ft. In.
April.....	15 2	15 1	October.....	15 6	15 0
May.....	15 3	15 1	November.....	15 0	13 11
June.....	15 3	15 1	December.....	14 9	14 5
July.....	15 3	15 1	1916		
August.....	15 8	15 4	January.....	15 5	14 7
September.....	15 7	15 4	February.....	15 5	15 3
			March.....	15 8	15 4

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Statement showing the highest and lowest depths of water on the upper sill, lock No. 26, new Welland canal, Port Colborne, for the fiscal year ending March 31 1916:—

Months.	Upper Sill.		Months.	Upper Sill.	
	Highest.	Lowest.		Highest.	Lowest.
1915	Ft. In.	Ft. In.		Ft. In.	Ft. In.
April.....	13 10	12 8	October.....	14 10	13 6
May.....	14 8	12 11	November.....	16 7	12 11
June.....	14 7	13 2	December.....	14 10	10 3
July.....	15 2	13 0	1916		
August.....	15 0	13 4	January.....	15 9	12 6
September.....	16 5	13 3	February.....	15 2	12 10
			March.....	14 4	12 1

Statement of moneys collected for fines and damages caused to canal property by vessels, etc., during the fiscal year ended March 31, 1916:—

Date of fine or damage.	Name of Vessel.	Amount of fine or damage.	Amount paid.	Date paid.	Where paid.
1890		\$ cts.	\$ cts.	1915	
Sept. 7.....	Str. "T. D. Stimson".....	4,509 55	1,000 00	July 8	Pt. Dalhousie.
			1,000 00	" 11	"
			500 00	Aug. 12	"
			250 00	" 25	"
			250 00	Sept. 3	"
			250 00	" 15	"
			250 00	Oct. 6	"
			250 00	Nov. 18	"
				1916	
			250 00	Jan. 10	"
			259 55	" 18	"
			250 00	Mar. 7	"
1914				1915	
July 23.....	Dredge "C. M. Hall".....	8 68	8 68	May 13	"
" 27.....	Str. "Sarmor".....	2,180 98	2,001 11	Aug. 31	Department.
Aug. 11.....	" "J. W. Nicholas".....	27 91	27 91	May 13	Pt. Dalhousie.
" 25.....	" "J. B. Ketcham 2nd".....	12 16	12 16	June 1	"
Oct. 4.....	" "Rock Ferry".....	14 07	14 07	" 23	"
1915					
April 19....	" "Wahcondah".....	8 75	8 75	" 1	"
" 28.....	" "Keywest".....	17 86	17 86	" 10	"
" 29.....	" "Calgarian".....	8 60	8 60	Sept. 7	"
May 5.....	" "Saskatoon" (fine).....	10 00	10 00	June 14	"
" 25.....	" "Natironco".....	28 25	28 25	Dec. 30	"
" 28.....	" "Byron Whitaker".....	20 89	20 89	Sept. 17	"
" 30.....	" "John Sharpless".....	147 91	147 91	Oct. 30	"
June 2.....	" "Ogdensburg".....	18 20	18 20	Dec. 27	"
" 14.....	" "Rochester".....	14 54	14 54	Sept. 16	"
" 15.....	" "E. L. Fisher".....	19 30	19 30	" 13	"
July 8.....	Brg. "Hamilton".....	21 73	21 73	Oct. 4	"
" 15.....	Confederation Const. Co.....	13 25	13 25	Nov. 6	"
Aug. 2.....	Str. "H. G. Dalton".....	13 87	13 87	Sept. 10	"
" 6.....	" "Keybell".....	21 35	21 35	Oct. 29	"
Nov. 17.....	" "Veronica".....	25 75	25 75	Dec. 11	"
				1916	
" 19....	" "Keywest".....	11 17	11 17	Feb. 4	"

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REPORT OF THE SUPERINTENDING ENGINEER, SAULT STE. MARIE CANAL.

SAULT STE. MARIE, April 6, 1916.

SIR,—I have the honour to report upon the maintenance and operation of the Sault Ste. Marie canal for the fiscal year ending March 31, 1916.

The canal was opened for traffic on April 13, and closed on December 16, having been in operation for 248 days.

The traffic passing through the St. Marys river during 1915 was much greater than the year before, but not as great as the season of 1913. The freight traffic through the Canadian and United States canals during the season of 1915 amounted to 71,290,304 tons, an increase of 29 per cent; the passengers numbered 50,336, a decrease of 16 per cent, and the registered tonnage of vessels 56,399,147, an increase of 34 per cent.

The Canadian registered tonnage through both canals amounted to 4,326,402, an increase of 1 per cent; and the freight tonnage carried in Canadian vessels amounted to 4,202,752, a decrease of 14 per cent.

The freight tonnage through the Canadian canal amounted to 7,738,119, a decrease of 72 per cent; the passengers numbered 24,730, a decrease of 19 per cent.

The great falling-off in the traffic through the Canadian canal was caused by the operation of the new "third lock" on the American canal.

Before the opening of the new lock the Canadian canal had an advantage of 6 inches in draught over the American canal, and was the point in the system of navigation which governed the loading of vessels. Since the opening of the new lock, the Canadian lock has lost this advantage in draught, and the point which governs the loading draught of vessels is somewhere in the St. Clair river.

ACCIDENTS AND DAMAGES.

The steamer *Glenfinnan* of the Great Lakes Transportation Company, of Midland, Ont., after leaving the dock, upbound, at 9.40 p.m. on April 29, went aground on the north side of the Vidal Shoal cut, about one hundred feet clear of the channel. The accident was caused by the range lights being out and some of the gas buoys, marking the cut, not being in position. The *Glenfinnan* was released at 6.30 p.m. on May 1, after being lightered of 700 tons of package freight. She was leaking in her fore peak tank and her forward tank on the port side, but was able to proceed on her way.

The steamer *Jupiter*, of the Interlake Steamship Company, Cleveland, Ohio, entered the canal, downbound, at 4.30 p.m. on November 2, while a heavy southwest gale was blowing, and owing to the wind and also the current setting around the northwest pier, she was forced against the corner of the pier, striking on the port side about seventy-five feet from her bow. One plate was damaged and the stern of the vessel swung around and grounded on a line with the north side of the pier. She was pulled off with two tugs without difficulty and was able to proceed. No damage was done to the pier.

IMPROVEMENTS.

The work of renewing the top of the lower south pier, which was commenced in 1914, was continued and a further length of 300 feet was renewed by removing the timber cribwork to a point below the water line and rebuilding with concrete walls and a stone filling.

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The usual spring work of getting ready for the opening of navigation by overhauling the machinery, painting the lock gates, etc., was carried on; and also the work of cleaning out the lock at the close of navigation.

The floats along the north side of the canal were overhauled and seven new floats, 6 feet in width by 100 feet in length, were built.

The usual reports are attached hereto.

I have the honour to be, sir,

Your obedient servant,

J. W. LE B. ROSS,

Superintending Engineer.

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SAULT STE. MARIE CANAL.
COMPARATIVE STATEMENT since Opening of Lock, September 9, 1895.

Season.	1895	Increase or decrease over previous season.	1896	Increase or decrease over previous season.	1897	Increase or decrease over previous season.
Period open.....	Sept. 9 Dec. 6	.....	May 7 Dec. 10	.....	April 27 Dec. 14	.....
Canadian registered tonnage.....	125,240	.....	586,571	461,331	398,343	-188,228
United States registered tonnage.....	623,131	.....	3,810,704	3,187,693	3,406,018	-404,776
Total tonnage.....	748,371	.....	4,397,365	3,648,994	3,804,361	-593,004
Lockages.....	688	.....	3,042	2,344	2,976	-66
Vessel passages.....	1,193	.....	5,189	3,946	4,376	-813
Time passing lock.....	212 h. 27 min.	.....	984 hr. 22 min.	771 hr. 55 min.	684 hr. 11 min.	-300 hr. 11 min.
Average time lockage.....	18-26	.....	18-42	.....	13-79	.....
Period open.....	1898	.....	1899	.....	1900	.....
Canadian registered tonnage.....	April 11 Dec. 9	.....	April 26 Dec. 20	.....	April 23 Dec. 16	.....
United States registered tonnage.....	403,331	4,988	561,759	158,428	579,528	-17,769
Total tonnage.....	2,354,006	-1,051,412	2,388,441	33,885	1,616,139	-772,302
Lockages.....	2,757,937	-1,046,424	2,950,200	192,263	2,195,667	-754,533
Vessel passages.....	2,520	-456	2,610	90	2,205	-405
Time passing lock.....	3,712	-664	3,820	108	3,163	-657
Average time lockage.....	609 hr. 30 min. 14-51	-74 hr. 41 min.	643 hr. 16 min. 14-78	33 hr. 46 min.	541 hr. 24 min. 14-73	-101 hr. 52 min.
Period open.....	1901	.....	1902	.....	1903	.....
Canadian registered tonnage.....	April 20 Dec. 21	.....	April 1 Dec. 20	.....	April 2 Dec. 13	.....
United States registered tonnage.....	776,331	196,803	1,366,087	589,756	1,616,385	250,298
Total tonnage.....	1,672,631	56,492	3,238,069	1,963,438	3,145,020	-93,040
Lockages.....	2,448,962	253,295	4,604,156	2,155,194	4,761,420	157,249
Vessel passages.....	2,906	701	3,418	512	3,242	-76
Time passing lock.....	4,243	1,080	5,169	926	4,418	-73
Average time lockage.....	724 hr. 33 min. 14-46	183 hr. 14 min.	925 hr. 57 min. 16-25	201 hr. 19 min.	883 hr. 10 min. 16-34	-42 hr. 47 min.

1904	Period open..... April 30 Dec. 26 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	811 hr. 28 min. 16-16	1907	Period open..... April 22 Dec. 15 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,362 hr. 08 min. 17-78	1910	Period open..... April 12 Dec. 15 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	2,327 hr. 40 min. 22-86	1913	Period open..... April 13 Dec. 14 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	2,145 hr. 50 min. 20-54	1905	Period open..... April 10 Dec. 20 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,060 hr. 10 min. 15-79	1908	Period open..... April 21 Dec. 15 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,258 hr. 35 min. 20-59	1911	Period open..... April 22 Dec. 13 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,704 hr. 25 min. 19-55	1914	Period open..... April 20 Dec. 14 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,654 hr. 30 min. 21-07	1906	Period open..... April 14 Dec. 22 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,131 hr. 23 min. 16-35	1909	Period open..... April 21 Dec. 16 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,853 hr. 45 min. 17-31	1912	Period open..... April 24 Dec. 19 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	1,811 hr. 45 min. 17-53	1915	Period open..... April 13 Dec. 16 Canadian registered tonnage..... United States registered tonnage..... Total tonnage..... Lockages..... Vessel passages..... Time passing lock..... Average time lockage.....	984 hr. 05 min. 16-38
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REPORT of Traffic passing Sault Ste. Marie Canadian and American canals.

Year.	Number of vessels passed.	Registered tonnage of vessels.	Total freight tonnage.	Cost of carrying per mile, ton.	Estimated value of freight carried.	Percentage of freight carried in Canadian vessels	Number of passengers.
1855	193	106,296	14,503				8,295
1860	916	403,637	153,721				9,230
1865	997	400,062	181,638				19,777
1870	1,828	690,826	539,882				17,153
1875	2,063	1,239,554	835,465				19,685
1880	2,563	1,734,890	1,321,906				23,766
1885	3,350	3,035,957	3,256,628				36,147
1890	10,557	8,454,435	1,041,213	1.3	102,214,943	3.5	24,856
1891	10,191	8,400,685	9,041,213	1.35	128,178,208	4.0	26,190
1892	12,580	10,647,203	11,214,333	1.31	135,117,267	3.8	25,896
1893	12,008	8,949,754	10,796,572	1.1	145,436,957	4.1	18,869
1894	14,491	13,110,366	13,195,860	0.99	143,114,502	3.5	27,236
1895	17,956	16,806,781	15,062,580	1.14	159,575,129	3.75	31,656
1896	18,615	17,249,418	16,239,061	0.99	195,146,842	3.0	37,066
1897	17,171	17,619,923	18,982,755	0.83	218,235,927	40.213	40,213
1898	17,761	18,622,764	21,234,634	0.79	233,069,740	2.2	43,426
1899	20,255	21,938,347	25,255,810	1.05	281,364,750	3.1	49,082
1900	19,432	22,315,834	25,643,973	1.18	267,041,959	3.0	58,555
1901	20,041	24,626,976	28,403,065	0.99	289,906,865	4.0	59,663
1902	26,659	31,955,582	35,961,146	0.89	358,306,300	4.0	59,377
1903	27,736	37,736,444	34,674,437	0.92	349,405,014	6.0	55,175
1904	16,120	24,364,138	31,546,106	0.81	334,592,686	6.0	37,695
1905	26,617	36,617,690	44,270,680	0.85	416,965,484	5.0	54,204
1906	22,155	41,098,324	51,751,680	0.84	537,493,454	5.0	63,053
1907	20,437	44,087,974	58,217,214	0.80	569,830,188	5.0	62,738
1908	13,181	31,091,730	41,890,357	0.69	470,141,318	7.0	53,287
1909	13,204	46,751,717	57,895,149	0.78	626,104,173	6.0	59,948
1910	20,869	49,856,123	62,365,218	0.74	634,010,844	6.0	66,933
1911	18,673	41,653,488	53,477,216	0.67	595,019,844	6.0	79,951
1912	22,778	56,736,807	72,472,676	0.67	791,357,837	6.0	66,877
1913	23,795	57,989,715	79,718,344	0.68	865,957,838	6.0	77,194
1914	18,717	41,986,339	55,369,934	0.60	634,800,268	9.0	59,418
1915	21,233	56,399,147	71,290,304	0.71	882,293,141	6.0	50,336

SESSIONAL PAPER No. 20

CAR FERRY TERMINALS.

CAPE TORMENTINE, N.B., May 18, 1916.

SIR,—I have the honour to submit my annual report on the construction of the car ferry terminals on the strait of Northumberland at Cape Tormentine, N.B., and Carleton Point, P.E.I.

TERMINAL AT CAPE TORMENTINE.

A contract was entered into with Mr. A. T. Mackie, April 28, 1913, and the date of completion has been extended to the 31st of August, 1916. Difficulty was experienced by the contractor in obtaining the class of labour which the work demands, and in making progress under unfavourable advance with the work, but the dredging plant was unable to provide the progress desired.

The contract includes the construction of cribwork for the landing slip and in widening the old pier as an approach to the ferry landing; a rubble mound breakwater providing protection from easterly and southerly weather, and the substructure of concrete piers and abutment for the transfer bridge.

Cribwork.—All the cribs for the landing slip and the widening of the old pier have been built up to deck level, leaving 230 feet of sea-wall, a portion of decking and 2,000 tons of cribfill to complete this work, estimated as one month's work.

Rubble mound breakwater.—The core of the breakwater was deposited for its full length and a temporary protection of large rubble stone has been placed on the slopes. The contractor has provided a travelling derrick designed for this work, and the bedding and placing of the coping and rubble stone will be pushed forward towards an early completion. The stone for the breakwater is obtained from the Sackville-freestone quarries situated in the town of Sackville, 36 miles from the terminal works. The railway transportation for the stone at the outset was not satisfactory but has now much improved.

Dredging of Turning basin and approach.—The work done under the contract was confined last season to the turning basin, and an area of 43 per cent of total area to be dredged has been executed.

Additional dredging.—To provide an entrance channel round a ridge of solid rock found to exist within the contract lines, a second dredge was employed. Only a small area of this additional work remains to be dredged.

Raising of Cape Tormentine Pier.—The old timber pier which will be used as the approach to the ferry landing has been raised about two feet to conform with the level of the new works. A small quantity of cribfilling, track-laying and ballasting will put this section of the work in readiness for operation.

Abutment and piers for transfer bridge.—The six piers which provide a foundation for the columns of the transfer bridge have been completed, and preparations made to build the abutment. An early completion of this work is anticipated, which will permit the erection of the transfer bridge.

TERMINAL AT CARLETON POINT.

A contract with the Roger Miller Company was entered into September 2, 1913, and the time of completion has been extended to August 31, 1916. The work comprised

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in the contract provided for the construction of a stone approach extending out from the shore 1,600 feet and followed by 637 feet of pier on the sea side and 230 feet on the harbour side, which provides a landing for the ferry; the construction of a rubble mound breakwater 700 feet long; the dredging out of a turning basin and the construction of piers and abutments for the transfer bridge.

Approach to landing.—The core stone of the approach to the landing was carried out for its full length and large rubble stone deposited on the slopes for protection. The finished work has advanced to 850 feet from shore. Every effort is being made to push forward this work.

Cribwork for landing slip.—Nearly all the materials for this work have been delivered on the ground. A complete plant for the construction of the cribs was provided and during the season seven cribs were built to within 3 feet of deck level at Point du Chêne, N.B.; four were towed to Carleton Point, three of which were put in place and filled with ballast. Arrangements are complete to push forward this construction without interruption. Owing to Carleton Point not providing sufficient protection at the outset for the construction of cribs and other work, the contractors found it necessary to build the cribs for the landing slip at Point du Chêne to an elevation of 3 feet above high water.

Rubble mound breakwater.—The stone for the breakwater and approach to landing is obtained from a quarry close to Shediac, N.B., and also from the Wallace quarries, in both cases about 40 miles distant from the terminal works. The core for the rubble mound breakwater has been deposited for its full length, and the slopes temporarily protected with large rubble stone. The contractors have added to their plant a travelling derrick specially designed for this work, in order that construction may be advanced with the least possible delay.

Dredging.—The work of dredging out the turning basin had to be left until protection from the seas for the plant engaged was provided by the approach to the landing and the breakwater. These works were not sufficiently advanced until late in the summer to permit a dredge operating with safety. The work of dredging will now be taken in hand and every effort made to provide sufficient space to allow the ferry to be docked as soon as possible.

CARLETON BRANCH LINE RAILWAY.

The construction of the branch line railway connecting the Cape Traverse branch of the Prince Edward Island Railway with the terminal at Carleton Point was started December 1, 1913, and has been undertaken by day labour. The clearing, grading, and ditching have been completed, and the track for $2\frac{1}{4}$ miles. All materials and equipment necessary to lay the track to the ferry landing have been provided and provision made to bring this work to an early completion.

In concluding this report I wish to draw attention to the exposed location of the works to high seas from rough weather, which has caused much lost time in the operating of the floating plant employed on both terminals, and to the short season of 1915 caused by the late presence of ice in the strait of Northumberland well into the month of May, and to the stormy weather in the early autumn.

I have the honour to be, sir,

Your obedient servant,

F. B. FRIPP,

Engineer in charge.

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HUDSON BAY RAILWAY.

WINNIPEG, May 22, 1916.

W. A. BOWDEN, Esq.,
Chief Engineer,
Department of Railways and Canals,
Ottawa, Ont.

SIR,—I have the honour to submit my report for the fiscal year ending March 31, 1916.

Clearing.—The right of way has been cleared to Kisemachisk river, mile 395.

Grading.—Grading operations were carried on as far as mile 383 and by the first of November the road-bed was completed to mile 378, or within 47 miles of Port Nelson. During the winter, supplies have been put in and camps established to complete the remaining portion of the work during the coming season. Material moved during the past year amounts to 2,347,000 cubic yards.

Tracklaying.—Track has been laid from mile 220 to 241, the end of steel being at the first crossing of the Nelson river at Manitou rapids. Further progress in laying track will not be made until the completion of the bridge at this point.

Trainfill and Ballast.—Pits at mile 127, 157 and 191 have been worked during the season. The material in the two latter was only suitable for train filling; consequently, all ballast and surfacing materials had to be hauled from mile 127, where the quality is very good. Surfacing was carried to mile 225, a considerable number of depressed grades were brought up, and all temporary trestles were filled up to that point. Material handled by trains amounted to 916,400 cubic yards.

Telegraph Line.—The telegraph line was built from mile 175 to mile 237, and a single wire was carried to mile 241.

Tanks.—Two (2) standard tanks at mile 185 and 214 were erected and the water supply laid into them.

Bridges.—The bridge which carries the railway across the Nelson river at Manitou rapids is of the anchored cantilever type, having a main span of 304 feet 6 inches, and a total length (including the plate girder approach span at the east end) of 608 feet, the deck being 94 feet above the river. The substructure was commenced on August 13, and completed October 27. The erection of steel work was started by the Canadian Bridge Company on December 2, and on March 31 there remained only two week's work to complete same. Great credit is due to the bridge company for the very efficient manner in which they handled this contract under the severe weather conditions which prevailed during the winter months at this point.

Trestles.—Trestles were erected over the Armstrong river at mile 235; over creek at mile 237, and at the west approach to Manitou Rapids bridge. At Armstrong lake, mile 226, several bents of the trestle collapsed on May 25, on account of settlement of piles under trainload. Owing to the difficulty of securing long piles at this season of the year, and with a view of hastening the work, it was decided to put in a series of

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rock-filled round-timber cribs, over which, on a temporary grade, traffic is now being carried. After all bridge material and erection outfit had been taken across and delivered at Manitou rapids, it was decided, during the winter months to do some further rock-filling over the long crib, as same was settling unevenly and going out of line. This work was completed about the end of March. It will take considerable material to complete the embankment across this lake, but until we get a favourable opportunity to do this work the temporary grade will be used.

Surveys.—Owing to a change in the development plan at Port Nelson, the terminal yards site was moved on to higher ground and it was necessary to re-locate the last 30 miles of the line; this was done during the winter months, and a satisfactory location obtained.

General.—During the past season good progress was made on the grading and bridge erection, but, owing to the long haul and to inferior digging in one of the pits, the train filling and ballasting did not come up to expectations. Some delay was occasioned by a small sink hole which developed at mile 207, and also at Armstrong Lake crossing.

A weekly mail service from the end of steel to Port Nelson was maintained during the summer by canoe, and by dog team in the winter.

Twelve (12) members of the staff were granted leave of absence in order to enlist for active service abroad, and in addition to these, fifty-eight (58) others have enlisted. a considerable number now being on the firing line.

Casualties.—I regret to report that W. A. Sones was drowned on May 11, at Shell rapids, on the Nelson river, through misadventure, the canoe being upset and carried down the rapids. J. H. Challoner, timekeeper at residency No. 27, died on November 8, from natural causes.

I have the honour to be, sir,

Your obedient servant,

J. W. PORTER,
Chief Engineer.

HUDSON BAY RAILWAY TERMINALS AT PORT NELSON.

PORT NELSON, April 20, 1916.

W. A. BOWDEN, Esq.,
Chief Engineer,
Dept. of Railways and Canals,
Ottawa.

SIR,—I have the honour to present the following annual report upon the works of the Hudson Bay Railway Terminus at Port Nelson, for the year ending March 31, 1916.

The work of former years was largely of a preliminary nature, and preparatory to the really difficult work to be accomplished.

During the year just closed, a considerable part of the works necessary to the erection of deep-water wharves has been constructed, and the manner in which such works have withstood the erosive action of the tidal currents, and the ice movements of the estuary, has been most gratifying.

It was necessary to increase the working forces at Port Nelson by the importation of a large number of timber workers and other mechanics. In order to have them at hand during June, July, August, September, and October, it was necessary to bring them in by the tote road before the break-up, which occurs about the middle of April.

During April, May, June and July, a large number of ship carpenters were engaged on the construction of scows and dredges. These were not completed until a month after the opening of navigation. The cribworkers were engaged on the drydock, the reconstruction of wharf No. 1, which had been wrecked by the ice, and the extension of wharf No. 3, so as to enclose the mud bank with sheet piling and crib-work, and, at the same time, to provide wharf space and a breakwater for the protection of the other wharves.

During the above period, the mechanical forces were greatly overtaxed by the demands of the dump scows, drydock gates, derricks, and many other items of the plant, the ironwork of which had to be created from whatever material or scrap was available.

The labour forces were used on a great variety of work, such as gathering rock from the beach, the filling of cribs, the grading of a storage yard, so as to make it less liable to fire, and other things too numerous to mention.

A gang of about thirty lumber jacks were engaged during the spring, in driving their winter cut to the mouth of the Airhole river, and, later in the summer, in bringing it in rafts down the Nelson to tide water.

Two beacons have been built during the year, one at Nelson shoal and the other at Flamboro Head.

The breaking up of the winter roads in the spring of 1915 was very early, and, on May 3, a lake-like area in the harbour opened up and cleared of ice; due to colder weather, the remaining ice held together until the twenty-seventh of May, when the general break-up occurred. The shore ice, and that drifting in the harbour, rendered it impossible to float craft until the sixteenth of June, at which date the *Kathleen* was floated.

During the month of May and until the 8th of June, there was great danger of the camps being destroyed by fire, due to the excessively dry weather. Fortunately, a

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snowstorm on the eighth of June and another on the seventeenth relieved the situation. Previous to the arrival of the snowstorm, the layer of moss which overlies the whole country was as dry as powder, and the slightest spark from a dinkey engine, a carelessly thrown match, or cigarette, would instantly start a fire. At times the whole camp was called upon to fight fires, with consequent demoralization to the works.

In June, Flamboro Head wharf was built, and the channel buoyed from Port Nelson to Deer island. On the 26th of the same month, the $1\frac{1}{2}$ yard dredge and the stern-wheeler were taken to Flamboro Head, where the dredge worked for the remainder of the season.

On account of driving ice, the placing of buoys in the seaward channel was delayed until the beginning of July; and it was not until the fifth that salving of timber by scows began from the wrecked ship *Alette*.

During the early part of July, the works did not progress favourably, due to delay in the completion and placing in commission of the floating plant, and due to difficulty with the scour, which was not altogether unexpected, but was found developing to such an extent as to place great difficulty in the way of the permanent works being started at the point intended.

At this time, it was decided to start the permanent deep-water works 2,000 feet up stream from the breakwater, instead of from the end of it, as had been formerly contemplated. From that date onwards, the works progressed rapidly, and at the end of navigation season, October 25, there were twelve piers built and in place. The outermost is a little less than half a mile from shore, and 116 feet long by 62 feet wide. Work was continued into November on filling and protecting these cribs for the winter, and preparing them to receive the eleven steel spans. These eleven spans have since been erected in place.

The 3-yard dredge was launched on July 27, and was utilized dredging pier sites shortly afterwards. The suction dredge was drydocked on the 26th of July, and was taken out to work in the channel on September 5.

It would take too much space to describe the work which was done by the several dredges, tugs, lighters, scows, gasolene boats, cranes, pile drivers, derricks, and steam shovels; but all were utilized so as to construct and protect as many bridge piers as possible. No attempt was made to excavate large quantities of earth, but rather to obtain suitable riprap and filling from all sources and deliver it to the place required.

During the season, the ss. *Adventure* and ss. *Bellaventure* made three trips from Halifax and Sydney to Port Nelson; and the ss. *Durley Chine* and ss. *Sheba* each made two trips. The old sailing hulk *Benmore* was towed by the *Bellaventure* to Sydney, and back to Port Nelson with a load of coal. No accidents occurred to any ship. The first ship to arrive was the *Bellaventure* on August 1. The *Bellaventure*, *Adventure*, and *Sheba*, all left Port Nelson together on October 22. Arctic ice was met by the first three ships arriving at Port Nelson, and the last three departing.

Early in November, the forces at work at Port Nelson were reduced to about two hundred men. Those who were laid off made the journey of 180 miles, to the end of steel, on foot, along the partly constructed Hudson Bay railway.

During the winter the Dominion Bridge Company had a force of about twenty men engaged on the riveting of the structural steel for the bridge. In February, this force was increased to about forty-five, when erection of the spans on the piers began.

A gang of about twenty-five men was used throughout the winter in a logging camp on the Airhole river, about eighty miles from Port Nelson.

The mechanical forces were busy all winter on the overhauling of the plant, the carpenters on the construction of additional shops and scows, while the labouring gangs were used in tearing up trestles which had served their purpose, and much other work connected with the toting of supplies, the keeping of tracks open, and the handling of supplies and materials.

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The Marconi station has been moved to a new foundation, more suited to a perpetually frozen country than the one on which it was first built.

The hospital has also been moved to a more advantageous location than that where it at first stood.

The weather during the summer of 1915 was the best yet experienced at Port Nelson; but the snowfall during the winter was excessively heavy, and drifted to such an extent that it greatly hampered lumbering, toting, and the work at Port Nelson. The following table shows the average temperature from morning and evening readings:—

	Jan. °	Feb. °	Mar. °	April. °	May. °	June. °	July. °	Aug. °	Sept. °	Oct. °	Nov. °	Dec. °
1913	-42.0	-24.6	-15.1	22.5	29.3	43.9	53.0	51.7	37.6	21.2	8.3	-5.7
1914	-23.9	-28.5	- 7.7	12.0	31.7	43.4	55.8	53.3	46.2	32.0	8.0	-7.6
1915	-21.6	6.6	.3	26.1	31.0	41.2	49.7	52.3	40.3	28.6	12.0	2.8
1916	-22.8	-21.1	- 7.2	...	...	...	...	...	...	...	...	...

There was only one fatal accident during the year. The man, a Russian, fell overboard off a floating scow, late in October, and was drowned. The health of the workmen has been good, and no deaths from sickness have occurred.

A telegraphic service has been maintained by wireless with The Pas, throughout the year; and there has also been a mail service once a week, except at break-up and freeze-up periods.

On the 31st of March, 1916, which closes the fiscal year, an additional force of about one hundred and sixty men was en route to Port Nelson. It is planned to bring in another fifty men about the first of June. These will travel partly on the grade of the Hudson Bay railway, and partly by gasoline boat.

The appropriation has been reduced for the coming year, and, consequently, it is not possible to prosecute the work as economically as would otherwise have been possible. The transportation of men continues to be a heavy charge upon the works.

Yours truly,

D. W. McLACHLAN.

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REPORT OF THE ENGINEER IN CHARGE DARTMOUTH TO DEANS
BRANCH INTERCOLONIAL RAILWAY.

DARTMOUTH, N.S., June 26, 1916.

W. A. BOWDEN, Esq.,

Chief Engineer, Department of Railways and Canals,
Ottawa, Ont.

SIR,—I have the honour to submit the following report on the progress of the construction of the Dartmouth to Deans branch of the Intercolonial Railway of Canada, during the fiscal year ended March 31, 1916.

Principal contract.—The work covered by the contract with Messrs. M. P. & J. T. Davis, including grading, trestles and culverts, tracklaying, ballasting and fencing, etc., was finished during the fiscal year, grading being finished in November, and all operations ceasing in December, 1915.

Steel bridges.—Twenty-nine steel bridges in all were erected, ranging from 20-foot to 125-foot spans, and were divided into three contracts as follows: Dominion Bridge Company of Lachine, Que., five bridges; the Dickson Bridge Works Company, of Campbellford, Ont., four bridges; McGregor & McIntyre, Ltd., of Toronto, twenty bridges.

The Dominion Bridge Company's contract is finished, and those of the Dickson Bridge Works Company, and McGregor & McIntyre, Ltd., also finished except final coat of paint.

Telegraph Line.—A telegraph line of one wire, on cedar posts, was erected from Dartmouth to Upper Musquodoboit, under a contract with Mr. A. McGillivray, of Antigonish, N.S.

Present condition of line.—The line is generally in good condition, but some trouble has been experienced from the sliding of the slopes of clay cuttings, particularly those about Lawrencetown. When the contractors' grading operations ceased in November, 1915, this sliding material had been removed in so far as it had filled the cuttings at that time; the sliding has subsequently continued, especially during spring thaws and rainy weather, and some further work will be necessary to get these cuttings into permanent satisfactory condition.

The embankments are, for the most part, up to grade and of full width, but at some points on soft bottoms subsidence has occurred, requiring lifting and surfacing of track beyond ordinary maintenance work.

Since the beginning of the operation of the line by the Government, in January last, it has become apparent that some additional sidings will be necessary for the handling of the lumber traffic.

Yours truly,

W. A. HENDRY,
Engineer in Charge.

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REPORT OF INSPECTING ENGINEER.

OTTAWA, July 29, 1916.

SIR,—I have the honour to report that the following inspections of railways, subsidized by the Dominion Government, were made by me during the fiscal year ending March 31, 1916:—

April 25 to May 6, 1915.—Canadian Northern Ontario Railway: Montreal to Port Arthur.

May 13 to 23, 1915.—Canadian Pacific Railway: Gimli to Riverton.

May 24 to June 3, 1915.—Kettle Valley Railway: Midway to Penticton; Penticton to Merritt and Hope to Coldwater Junction.

June 5 to 21, 1915.—Canadian Northern Pacific Railway: Vancouver to Yellowhead Pass.

June 22 to 29, 1915.—Kettle Valley Railway: Inspection of records at Penticton.

August 14 to 29, 1915.—Canadian Northern Ontario Railway: Montreal to Port Arthur.

September 25 to 30, 1915.—Canadian Northern Railway: Prince Albert to Battleford.

October 1, 1915.—Canadian Northern Alberta Railway: Edmonton to Yellowhead Pass.

October 2 to 6, 1915.—Canadian Northern Pacific Railway: Yellowhead Pass to Vancouver.

October 6 to 8, 1915.—Kettle Valley Railway: Fraser River Bridge.

October 20 to 25, 1915.—Canadian Northern Ontario Railway: Montreal to Port Arthur.

November 16 to 20, 1915.—Dominion Atlantic Railway: Centreville to Weston and Canning Spur.

November 23 and 24, 1915.—Lake Erie and Northern Railway: Galt to Port Dover.

November 25 and 26, 1915.—Canadian Northern Ontario Railway: Toronto to Ottawa.

January 24 to 26, 1916.—Canadian Northern Ontario Railway: Inspection of Montreal-Port Arthur records at Toronto.

January 27 and 28, 1916.—Lake Erie and Northern Railway: Inspection of Galt-Port Dover records at Galt.

March 22 to 26, 1916.—Canadian Northern Ontario Railway: Inspection of Ottawa-Port Arthur records at Toronto.

The field work represents 5,150 miles of line inspected, all of which has been reported on in detail.

I have the honour to be, sir,

Your obedient servant,

ALEX. FERGUSON,

Inspecting Engineer.

PART IV.

Report of the Government Chief Engineer of the
Western Division of the National Trans-
continental Railway.

Sir COLLINGWOOD SCHREIBER, K.C.M.G.

OTTAWA, April 1, 1916.

The Hon. FRANK COCHRANE,
Minister of Railways and Canals,
Ottawa, Ont.

SIR,—I have the honour to submit my annual report on the progress made with the works of construction on the western division of the National Transcontinental railway (Grand Trunk Pacific railway) for the fiscal year ended on the 31st of March, 1916.

The western division of the Grand Trunk Pacific railway extends from the city of Winnipeg, Man., to the city of Prince Rupert, B.C.

For construction purposes, it is divided into two sections, viz.:—

The "prairie section," extending from the east bank of the Assiniboine river, in the city of Winnipeg, to the east bank of Wolf creek, Alberta.

The "mountain section" begins on the east bank of Wolf creek and extends to Prince Rupert.

The Government guarantee is limited to \$13,000 per mile on the "prairie section". On the "mountain section" the guarantee is 75 per cent of the cost of construction.

The standard of the road is not to be inferior to the main line of the Grand Trunk Railway of Canada between Montreal and Toronto, so far as may be practicable in the case of a newly constructed line of railway, and the road is to be constructed according to plans and specifications to be approved by the Government.

Prairie Section—915 miles in length.

The road throughout this section is so far advanced towards completion as to be in very fair condition for public traffic, and has been successfully operated during the financial year just closed.

There are two points which require to be disposed of before I shall be in a position to issue a final estimate.

First.—As to whether or not the class of structures which I consider necessary to comply with the standard called for by the statute.

When the works of construction were commenced in the year 1905, I prepared a statement of these structures. The Grand Trunk Pacific Railway Company, however, having refused to comply with the requirements so set out, an Order in Council, dated the 19th of July, 1906, was passed to the effect that the matter so in question was to be settled by arbitration, unless, in the meantime, settled amicably.

So far as I am aware, no action has been taken in this direction.

Some of the structures have been built about ten years and are now showing necessity for heavy repairs or renewals, the life of the timber of which they are constructed having almost come to an end. In fact, a pile trestle bridge about 84 miles west of Winnipeg, 150 feet high and about a quarter of a mile in length, during a cyclone, blew down from end to end, the piles having become so rotten that they broke off. The Grand Trunk Pacific Railway Company proceeded to rebuild, and in about three weeks were again running trains over it. In the meantime, the traffic was run around the gap over the Canadian Pacific railway. Similar structures are being maintained and renewed at the cost of capital.

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Second.—As to whether or not legislation will be passed approving of the agreement for the use of the Canadian Northern Railway Company's station and yard at Edmonton by the Grand Trunk Pacific Railway Company.

On the "prairie section" there are erected eight steel structures of considerable magnitude resting on concrete abutments, piers, and pedestals, and one resting on wooden pile abutments. All the rest are of timber, both bridges and culverts.

The buildings erected may be enumerated as follows: 5 divisional stations, 123 way stations, 56 section-houses, 127 toll-houses, 101 bunk-houses, 6 round-houses, 4 machine shops, 7 coaling stations, 21 water stations, 1 car shop, 3 freight-houses, 2 ice-houses, 4 sand-houses, 3 storehouses, 45 stockyards, 98 loading platforms.

The works remaining to be done to complete this section according to contract, and their estimated cost, are as follows:—

1. Grading in making up embankments to specified height and width.. . . .	\$ 87,500 00
2. Ballasting to complete final lift.. . . .	650,000 00
3. For passenger station, passenger yard at Edmonton, and preparing same for use.. . . .	435,000 00
4. For the erection of permanent structures on the first 280 miles west from Winnipeg.. . . .	1,200,000 00
Total to complete the "prairie section"....	<u>\$2,372,500 00</u>

If legislation is passed approving of an agreement between the Canadian Northern Railway Company and the Grand Trunk Pacific Railway Company for the joint use of the station and yard at Edmonton, the above item No. 3—\$435,000—may be wiped out; and if it be decided that the erection of temporary structures on the first 280 miles west from Winnipeg is admissible, the above item No. 4—\$1,200,000—may be wiped out.

My estimate, as above, of \$2,372,500 would then be reduced by a total of \$1,635,000, leaving the estimated cost to complete the "prairie section," \$737,500.

Mountain Section—830 miles in length.

The works of construction have made very poor progress during the fiscal year ended the 31st of March, 1916, owing, no doubt, to the financial stringency caused by the war. The work has been chiefly confined to the clearing out of slides in cuttings, making up embankments that have slid out of place, a small amount of ballasting, the building of four round-houses, two divisional station-houses, six water stations and two freight-houses.

On this section there have been built in all the following: 59 steel bridges resting on concrete abutments, piers, and pedestals; 2 concrete arch structures, 7 round houses, 5 machine shops, 3 coaling fuel stations, 7 oil fuel stations, 35 water stations, 1 car shop, 4 divisional stations, 115 way stations, 1 trainmen's house, 10 section-houses, 135 tool-houses, 18 bunk- or sleeping-houses, 6 freight-houses, 8 ice-houses, 3 sand-houses, 1 storehouse, 1 stockyard, 2 docks, 1 coaling dock, 1 loading platform.

There yet remains to be executed to complete this section according to statute and the plans and specifications as follows:—

Along the Section—

Filling in of temporary trestles and sink holes.. . . .	\$ 402,500
Ballasting—417 miles of second lift.. . . .	325,000
Divisional stations.. . . .	75,000
Way stations.. . . .	8,000
Three round houses to complete.. . . .	50,000
Riprapping.. . . .	22,500
Wooden bridges.. . . .	65,000
200 miles of fencing.. . . .	60,000
3,235 tons of first-class steel rails.. . . .	129,400
Tracklaying above rails.. . . .	10,000

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Along the Section—*Concluded.*

120 switches.. . . .	\$ 21,000
Lifting thirteen miles of second-class steel rails.. . . .	1,950
Tracklaying in yards—13 miles.. . . .	15,000
Divisional stations to complete.. . . .	40,000
Two water stations to complete.. . . .	10,000
Machinery and tools to equip machine shops.. . . .	125,000
Two car repair shops.. . . .	20,000
Five tool-houses.. . . .	500
Eight sectionmen's houses.. . . .	9,600
Seven bunk or sleeping houses.. . . .	4,200
Three trainmen's houses.. . . .	37,500
One machine shop to complete.. . . .	5,000
Small buildings, such as sand houses, etc.. . . .	10,000
Three divisional freight houses.. . . .	18,000
Track fastenings or joints.. . . .	18,000
	<hr/>
	\$1,483,200

At Prince Rupert—

1 car shop.. . . .	\$ 9,000
1 carpenter shop.. . . .	10,000
10 miscellaneous buildings.. . . .	30,000
1 stock yard.. . . .	8,000
1 terminal station house.. . . .	176,000
1 water service.. . . .	25,000
1 round-house, 18 stalls.. . . .	125,000
1 machine shop.. . . .	75,000
1 engine and car shop.. . . .	64,000
1 boiler shop.. . . .	100,000
1 freight shed.. . . .	55,000
1 freight shed to complete.. . . .	10,000
1 dock for heavy shipping.. . . .	500,000
Completing terminal yard.. . . .	100,000
	<hr/>
	\$1,287,500
	<hr/>
	\$2,770,700
Add 10 per cent for contingencies.. . . .	277,070
	<hr/>
Total estimate to complete the mountain section.. . . .	\$3,047,770

I may add that the above estimated cost of work remaining to be done at Prince Rupert is such as, in my opinion, will provide for the efficient conduct of business of that port for the next twelve years.

I have the honour to be, sir,

Your obedient servant,

COLLINGWOOD SCHREIBER,
Chief Engineer Western Division N. T. Ry.

PART V.

QUEBEC BRIDGE RECONSTRUCTION.

REPORT OF CHAIRMAN OF BOARD OF ENGINEERS.

MONTREAL, July 13, 1916.

SIR,—I beg to report progress of work on the construction and erection of the new Quebec bridge for the fiscal year ending March 31, 1916, as follows:—

During the fiscal year 1915-16, remarkably satisfactory progress has been made in the construction and erection of this structure. At the beginning of the year the north anchor arm was completed with the exception of the upper half of two panels next the main pier. During the past year the north anchor arm was completed, as well as the entire north cantilever arm. The weight of steel erected on this side of the river during this year amounted to about 15,000 tons. The lifting girders and hangers at the end of the cantilever arm were also put in place, which erection equipment will be used in connection with the lifting of the suspended span to its proper place.

After the steelwork had been entirely erected, the 1,000-ton traveller used for this work was taken down preparatory to re-erection at Sillery Cove, some three miles below the bridge site, where the suspended span will be erected during the coming season.

On the south shore the anchor arm was entirely erected, including the main posts over the pier and erection equipment left in such a position as to start the erection of the cantilever arm at the earliest possible moment during the coming season. The weight of steel erected on this side of the river during the season amounted to about 17,000 tons.

Owing to the experience gained on the north side, the erection of the south anchor arm was effected in considerably shorter time than the north anchor arm.

The accuracy of the shopwork was such that all steelwork on both sides of the river, went together with surprising ease, practically no adjustments having to be made in the field.

Preparations for a start on the erection of the suspended span are being made. Concrete piers for supporting the falsework have been put in place, and the erection of the falsework, traveller, and superstructure itself, will proceed immediately.

From the experience gained on the north side, it is expected that the south cantilever arm will be erected much more rapidly than the north cantilever arm, and if no hitch occurs, all the main steelwork of the bridge, including the suspended span, should be entirely erected by August, 1916. The floating in of the suspended span will probably take place about a month later.

In the shop practically all the main steelwork has been fabricated. There still remains a quantity of minor members, such as bracing, sidewalk handrailing, stairs, etc., to be fabricated. This work will probably be completed early in the summer.

At the mills all the main material, with the exception of a few replace orders for material that has been rejected, has been rolled. There are still a number of pins to be manufactured at the works of the Bethlehem Steel Company, but these are well under way, and this order should be completed early in the summer.

The status of the work to date is as follows:

	Total to March 31, 1915.	Total to March 31, 1916.
	Tons.	Tons.
Raw material ordered from the mills	54,000	71,000
“ received at the shop	50,028	70,296
Fabricated at shop	38,518	64,942
Members delivered at site	36,528	62,641
Steel erected and partially riveted	15,000	47,000
Total estimated weight		66,000

All of which is respectfully submitted.

C. N. MONSARRAT,

Chairman and Chief Engineer.

HON. FRANK COCHRANE,
Minister of Railways and Canals,
Ottawa, Ont.

PART VI.

REPORT OF THE GENERAL MANAGER OF GOVERN- MENT RAILWAYS AND OTHER OFFICIALS FOR THE YEAR 1915-16.

General Manager of Government Railways.

Report of the Chief Engineer, Government Railways.

- “ Mechanical Accountant, Government Railways.
- “ General Solicitor, Government Railways.
- “ Comptroller and Treasurer, Government Railways.
- “ Superintending Engineer, Halifax Ocean Terminals.

GOVERNMENT RAILWAYS.

OFFICE OF THE GENERAL MANAGER OF GOVERNMENT RAILWAYS,

MONCTON, N.B., September 25, 1916.

SIR,—The undersigned has the honour to submit the following report on the working of the Canadian Government Railways for the fiscal year ending March 31, 1916.

This report covers the Intercolonial Railway, the Prince Edward Island Railway, the International Railway, the New Brunswick and Prince Edward Island Railway, the St. John and Quebec Railway, and the Transcontinental Railway.

The annual statement of the Employees' Relief and Insurance Association is hereto attached.

It should be pointed out that the railway's contribution to this from earnings amounted to \$10,000.

The annual statement of the Intercolonial and Prince Edward Island Railways Employee's Provident Fund is hereto attached.

It should be pointed out that the railway's contribution from earnings to this fund amounted to \$100,000.

Separate accounts were, during the said fiscal year, kept for each railway, and these accounts will be considered separately in this report.

INTERCOLONIAL RAILWAY.

The following reports of the officials are enclosed:—

The report of the Chief Engineer, on works chargeable to Capital and Revenue Accounts.

Report of the Superintendent of Rolling Stock, statements relating to the Mechanical Department.

Report of the General Solicitor.

Report of the General Superintendent, statement of casualties.

Report of the Safety Engineer.

Report of the Comptroller and Treasurer as follows:—

1. Capital Account.
2. Revenue Account.
3. Maintenance of Way and Structures.
4. Maintenance of Equipment.
5. Traffic Expenses.
6. Transportation, Rail Line.
7. Transportation, Water Line.
8. Miscellaneous Operation.
9. General Expenses.
10. General Stores Account.
11. General Balance.
12. Statement of Receipts and Expenses.
13. Equipment Renewal Account.
14. Rail Renewal Account.
15. Fire Renewal Account.
16. Statement of Cash Received.
17. Statement of Averages.

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18. Statement of Articles carried by the Railway.
19. Statement of Freight carried by the Railway.
20. Statement of Passengers carried by the Railway.
21. Descriptive Statement of traffic transported.
22. Operative Statement of principal revenue producing freight.
23. Statement of Coal shipped over the Intercolonial.
24. Statement of Receipts—Passenger, Freight, Mails and Sundries.

CAPITAL ACCOUNT.

The cost of the road and equipment on March 31, 1915, was \$108,123,294.84. The additions during the year were as follows:—

To improve triple valve air brakes.....	\$ 3,400 00
Additional facilities, Amherst.....	14,462 08
Anti-creepers and tie plates.....	20,927 28
Strengthen bridges.....	700,000 00
Division of line and branch to wharf, Chatham.....	523 94
Double tracking, Chaudière Junction to St. Romuald.....	29,401 06
Division of line between Nelson and Derby Junction.....	4,061 00
Division of line between North Sydney and Lelches Creek..	59,990 29
Increase accommodation at Fredericton.....	.....
General protection of highways.....	259 39
Docks and wharves at Halifax.....	30,000 00
New terminal facilities, Halifax.....	3,162,304 82
Increase accommodation and provide machinery, Halifax..	3,496 42
Willow Park sewer, Halifax.....	52 00
Subway and facilities, Hampton.....	505 00
Installation of block system in connection with operation..	6,600 00
Installation of telephone system in connection with operation.	9,283 02
Improvements at Levis.....	71,715 71
Locomotive and car shops with equipment, Moncton.....	81,467 97
Elimination of level crossings and grades, Moncton.....	83,657 02
Installation of roofing, Moncton.....	3,656 87
Provide new car ferry and dock for same, Mulgrave.....	343,850 16
Original construction.....	600 00
Permanent wiring of engine houses.....	6,460 92
Permanent farm crossings and culverts.....	3,135 51
Increased facilities at divisional points, power plants.....	19,965 61
Pugwash spur line—Pugwash Harbour.....	413 60
Raising grade, Memramcook to Sackville.....	3,500 00
Rolling stock.....	2,250,000 00
Safety appliances for equipment.....	24,000 00
Standard track signs.....	313 29
Standard clocks for divisional points.....	2,151 00
Increase accommodation at Mont Joli.....	15,998 57
Spur line to Courtenay bay, St. John.....	1,643 83
Surveys and inspection.....	68,753 76
Improvements at Sussex.....	928 68
Sydney Mines diversion.....	4,745 56
Tile drainage in wet cuts.....	2,710 06
Increase accommodation and facilities along the line.....	102,000 00
Increased facilities at Trenton.....	11,883 16
Towards construction of railway, Dartmouth to Deans.....	330,360 13
Increase water supply.....	7,955 82
Bathurst spur line.....	62,400 00
Branch line, Sunny Brae to Mulgrave.....	21,209 18
New coaling plant, Levis.....	75,000 00
(Exchequer Court award) Cape Breton railway.....	795 10
Total.....	\$7,646,538 71
LESS—To increase accommodation at Fredericton.....	3,273 31
Grand total.....	\$7,643,265 40
Making the total cost on March 31, 1916.....	\$115,766,560 24

Explanations in regard to the expenditure on Capital Account will be found in the reports of the Chief Engineer and Superintendent of Rolling Stock.

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The gross earnings and the working expenses for the year compare as follows:—

Gross earnings..	\$14,068,791 41
Working expenses..	12,551,495 84
Surplus..	<u>\$1,517,295 57</u>

There was a gain of \$1,517,295.57 from the operation of the railway for the year. Part of this surplus has, under authority of 1-2 George V, chapter 8, been charged to improvements and betterments, or in other words, for work which under ordinary circumstances if there had not been a surplus of earnings over working expenses we would be justified in asking Parliament to vote the railway under capital account. The following renewal accounts have therefore been credited as under:—

Rail renewal..	\$ 190,000 00
Fire renewal..	100,000 00
Equipment renewal..	1,225,895 57
Total..	<u>\$1,515,895 57</u>

During the year ending March 31, 1916, there was charged to working expenses the sum of \$510,000, and credited to renewal accounts as follows:—

Fire renewal..	\$ 60,000 00
Rail renewal..	150,000 00
Equipment renewal..	300,000 00
Total..	<u>\$510,000 00</u>

REVENUE.

The gross earnings compare as follows with those of the previous year:—

1914-15..	\$11,444,873 14
1915-16..	14,068,791 41
Increase..	<u>\$2,623,918 27</u>

The earnings from passenger traffic compare as follows:—

1914-15..	\$3,291,916 96
1915-16..	4,010,879 58
Increase..	<u>\$718,962 62</u>

The earnings from freight traffic compare as follows:—

1914-15..	\$7,310,765 11
1915-16..	9,200,339 21
Increase..	<u>\$1,889,574 10</u>

The earnings from mails, express, freight, and miscellaneous compare as follows:—

1914-15..	\$842,191 07
1915-16..	857,572 62
Increase..	<u>\$15,381 55</u>

The earnings per mile of railway compare as follows:—

1914-15..	\$7,899 44
1915-16..	9,181 53
Increase..	<u>\$1,282 09</u>

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The earnings per train mile compare as follows:—

1914-15..	\$1 52
1915-16..	1 87

The number of passengers carried compare as follows:—

1914-15..	3,613,371
1915-16..	4,124,387
Increase..	511,016

The weight of revenue-producing freight compare as follows:—

1914-15.. tons.	4,529,002
1915-16.. "	5,447,220
Increase.. "	918,218

A number of statements which give detailed information in regard to the traffic are appended to this report. They are as follows:—

Passenger statement, showing monthly the number of local and through passengers carried and the mileage.

Freight statement, showing monthly the number of tons of local and through freight carried and the mileage.

Statement of receipts, showing monthly the receipts from passenger traffic, freight traffic, and mail and sundries.

Comparative statement, showing the principal articles of freight carried during the year and the preceding year.

Descriptive statement of freight transported, showing a few of the principal articles.

Statement of coal transported, showing station from which it was sent.

Statement showing the quantity of raw and of refined sugar, of fresh and salted fish, of grain for export, and of European freight carried over the railway.

WORKING EXPENSES.

The working expenses compare as follows with the previous year:—

1914-15..	\$11,438,373 14
1915-16..	12,551,495 84
Increase..	\$1,113,122 70

The averages compare with those of last year as follows:—

Per mile run by engine in 1914-15..	\$1 25
Per mile run by engine in 1915-16..	*1 30
Per mile run by trains in 1914-15..	1 52
Per mile run by trains in 1915-16..	*1 59

The working expenses per mile of railway:—

1914-15..	\$7,894 96
1915-16..	*8,220 89

* The above include expenses for water line, being operation of steamers *Sheba* and *Durley Chine*, amounting to \$50,619.83.

The mileage for 1914-15 was 1,448.82, and was increased for the year ending March 31, 1916, to 1,526.78.

During the year ending March 31, 1916, 584,611 ordinary ties were put in the track, and 168.72 miles of track ballasted, and a total of 33.36 miles of ditching

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completed to provide better drainage for the roadbed; 5.48 miles of additional business sidings and 4.49 miles of private sidings were provided at various points. Bridges, culverts, wharfs, fences, and buildings were repaired, and 107.77 miles of standard woven wire fence erected, and 0.47 miles of standard wire fence repaired.

The superintendent of rolling stock reports rolling stock purchased, rebuilt in shops, etc.

A number of bridges on the railway were repaired; a statement of bridges repaired and replaced will be found in the report of the chief engineer.

The result of surveys to get preliminary information required to ascertain cost of double tracking and reduction of grades will be found in the report of the chief engineer.

HALIFAX OCEAN TERMINALS.

Progress report of the work done on the new Halifax ocean terminals will also be found attached to the chief engineer's report.

STORES.

The value of general stores carried over from the previous year was.. . . .	\$2,379,244 22
The value of stores purchased and charges from other departments was.. . . .	5,410,852 11
Total of	<u>\$7,790,096 33</u>
The value of stores used and sold.. . . .	6,034,101 86
Balance of general stores on hand March 31, 1916.. . . .	<u>\$1,755,994 47</u>

PRINCE EDWARD ISLAND RAILWAY.

The length of railway in operation at the end of the year 1915-16 was 274.6 miles. The gauge is 3 feet 6 inches.

The cost of road and equipment, March 31, 1915, was.. . . .	\$ 9,490,899 71
The expenditure during year 1915-16 was.. . . .	1,350,472 73
Making a total cost on March 31, 1916.. . . .	<u>\$10,841,372 44</u>
Gross earnings.. . . .	\$390,926 82
Working expenses.. . . .	545,020 62
Deficiency.. . . .	<u>\$154,093 80</u>

The gross earnings compare with the previous year as follows:—

1914-15.. . . .	\$415,495 44
1915-16.. . . .	390,926 82
Decrease.. . . .	<u>\$24,568 62</u>

The working expenses compare with the previous year as follows:—

1914-15.. . . .	\$598,226 97
1915-16.. . . .	545,020 62
Decrease.. . . .	<u>\$53,206 35</u>

The necessary work to maintain the railway in a state of efficiency, renewing of track and switch ties, and the ballasting of several miles of track, has been carried out.

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NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

This road was taken over August 31, 1914, and forms the connecting link between the main line of the Intercolonial and the new car ferry, which is to be operated between Cape Tormentine, N.B., and Carleton Point, P.E.I. The line runs from Cape Tormentine to Sackville, and is 36.05 miles in length.

Amount expended to March 31, 1916, to bring line up to Intercolonial Branch Line standard, \$24,999.97.

The gross earnings and the working expenses to March 31, 1916, compare as follows:—

Gross earnings.. . . .	\$50,414 34
Working expenses.. . . .	76,844 63
Deficiency.. . . .	<u>\$26,430 29</u>

In addition to amount of working expenses, there was paid \$10,186.29 as interest on purchase price.

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

This road was taken over August 1, 1914. It extends from Campbellton, N.B., to St. Leonards, N.B., and is 111.30 miles in length.

Amount expended to March 31, 1916, to bring line up to Intercolonial Branch Line standard, \$2,637.47.

Gross earnings and working expenses to March 31, 1916, compare as follows:—

Gross earnings.. . . .	\$104,623 49
Working expenses.. . . .	116,651 38
Deficiency.. . . .	<u>\$12,027 89</u>

In addition to amount of working expenses, there was paid \$90,000 as interest on purchase price.

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

NATIONAL TRANSCONTINENTAL RAILWAY.

This line extends from Moncton to Winnipeg, and is 2,002.71 miles in length, which includes the Grand Trunk Pacific branch line from Fort William to Lake Superior Junction.

The gross earnings and working expenses to March 31, 1916, compare as follows:—

Gross earnings.. . . .	\$3,758,387 39
Working expenses.. . . .	3,860,528 75
Deficiency.. . . .	<u>\$102,141 36</u>

In addition to amount of working expenses there was paid the sum of \$300,000 on account of rental Lake Superior branch.

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

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ST. JOHN AND QUEBEC RAILWAY.

This road extends from Centreville to Gagetown, the portion Centreville to Fredericton being taken over on January 1, 1915, and the portion from Fredericton to Gagetown on March 2, 1915, for operation by the Canadian Government Railways. The mileage from Centreville to Gagetown is 119.87 miles.

The gross earnings and working expenses to March 31, 1916, compare as follows:—

Gross earnings.. . . .	\$57,742 71
Working expenses.. . . .	90,757 13
Deficiency.. . . .	<u>\$33,014 42</u>

Statement giving detailed information with regard to traffic, etc., will be found appended to this report.

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS
EMPLOYEES' PROVIDENT FUND.

The report of the fund, which has been separately furnished, shows:—

A credit balance on March 31, 1915.. . . .	\$376,826 29
During the fiscal year the contributions of the employees amounted to.. . . .	\$114,579 21
The contribution of the railway amounted to	100,000 00
Making a total of.. . . .	214,579 21
Amount received for refunds, etc..	1,155 47
To which is to be added the interest.. . . .	<u>9,832 22</u>
Making a total of.. . . .	<u>\$602,393 19</u>
Total expenditure was.. . . .	253,890 45
Leaving a balance to the credit of the fund on March 31, 1916.. . . .	<u>348,502 74</u>

I have the honour to be, sir,

Your obedient servant,

F. P. GUTELIUS.

The Hon. FRANK COCHRANE,
Minister of Railways,
Ottawa, Ont.

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INTERCOLONIAL RAILWAY—REPORT OF CHIEF ENGINEER'S DEPARTMENT, 1915-16.

NOTE.—Mileage shown covers actual length of track.

ROADBED AND TRACK.

Subdivision or Branch.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
District No. 1—				
Mont Joli.....	83.44		11.30	23.00
Rivière du Loup.....	118.13		22.21	19.34
Lévis.....	22.69	3.72	1.75	8.63
Chaudière.....	115.80		11.10	14.21
Nicolet.....	16.76		0.60	0.90
Rivière Ouelle wharf.....	6.48		0.90	
Rivière-du-Loup wharf.....				4.61
Rimouski wharf.....				2.58
Ste. Rosalie Jct. to Montreal (joint section).....	37.03	37.03		
Quebec Bridge connection.....				2.37
Total.....	400.33	40.75	47.86	75.64
District No. 2—				
Moncton.....	175.25		16.71	42.37
Dalhousie.....	6.74			1.42
Campbellton.....	105.38		9.41	7.54
Fredericton.....	110.64		4.45	8.10
Loggieville.....	13.77		1.03	6.43
Total.....	411.78		31.60	65.86
District No. 3—				
Halifax.....	62.12	14.04	8.56	61.79
Truro.....	124.75	7.08	19.83	30.50
St. John.....	89.36	3.05	13.00	53.58
Pt. du Chene.....	11.89		1.10	3.48
Dartmouth (including D. to D.).....	81.57		1.06	3.77
Moncton.....				23.00
Total.....	369.69	24.17	43.55	176.12
District No. 4—				
Sydney.....	101.84		4.0	*27.2
Mulgrave.....	122.35	2.0	8.2	16.17
Stellarton.....	79.40		3.0	15.70
Trenton.....	8.30		0.4	4.85
Pugwash.....	4.60			2.00
Sunny Brae.....	12.52		0.2	0.69
Pictou.....	2.23		0.4	2.70
Vale.....	5.35		0.0	0.50
Total.....	336.59	2.0	16.2	69.81

* Includes 1.6 miles old M.L. track between Georges River and Scotch Lake.

NOTE.—The length of the Intercolonial part of the Moncton subdivision has been reduced by 10.76 miles owing to the abandonment of the line between Moncton and Pacific Junction, and using the track of the National Transcontinental Railway between these points for the operation of all trains. See table of mileages, N.T.Ry.

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SUMMARY INTERCOLONIAL RAILWAY.

District No.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
1	400.33	40.75	47.86	75.64
2	411.78	.....	31.60	65.86
3	369.69	24.17	43.55	176.12
4	336.59	2.00	16.20	69.81
Total for I.C.R.	1,518.39	66.92	139.21	387.43

SUMMARY CANADIAN GOVERNMENT RAILWAYS.

Railway.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
Intercolonial.....	1,518.39	66.92	139.21	387.43
Prince Edward Island.....	274.60	.....	31.30	.....
National Transcontinental.....	2,002.71	13.45	170.37	256.49
Grand Trunk Pacific Ry. (leased lines).....	192.09	.....	17.85	* 40.15
New Brunswick and Prince Edward Island Ry.....	36.05	.....	0.93	3.35
International.....	111.30	.....	1.90	6.45
St. John and Quebec.....	119.87	.....	6.08	3.60
Total.....	4,255.01	80.37	367.64	697.47

RAILS.

The main line has been relaid with new 85-pound rail on the several districts as follows:—

District No.	Miles of Track.
1.	26.70
2.	26.04
3.	12.43
4.	11.00
Total track miles, new 85-lb. rail laid.	76.17

With the good relay rail released in laying the above, the main track was relaid at various mileages, and all piped, excessively battered or otherwise defective rails removed from the track.

New 80-pound rails were laid in the main line as follows:—

District No. 1. 1.95 miles.

Relaying rails were laid in the main line of branch lines releasing 56-pound rail as follows:—

District No. 2. 3.77 miles.

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The mileage of the various weights of rail in the main tracks of through main line and branches is as follows:—

District.	Weight of Rail.					
	50 lb.	56 lb.	67 lb.	70 lb.	80 lb.	85 lb.
1			7.40	15.67	308.45	74.90
2			106.83		255.92	49.03
3	4.40	7.40	28.68	4.25	316.47	32.96
4		17.90	89.91		195.98	34.74
Total.....	4.40	25.30	232.82	19.92	1,076.82	191.63

TIE RENEWALS.

Track ties have been renewed during the year as follows:—

District.	Main Line.	Average per Mile.	Sidings and Spurs.	Average per Mile.
	No.	No.	No.	No.
1	116,488	286	14,663	121
2	153,883	373	14,340	64
3	150,044	349	19,483	87
4	106,406	314	9,304	108

A total of 385 sets of switch ties were renewed during the year.

BALLASTING.

Ballasting of the roadbed has been completed over the following mileage:—

District	No.	Miles.
No. 1..		18.72
" No. 2..		32.68
" No. 3..		75.82
" No. 4..		41.50
Total ..		168.72

DITCHING.

A total of 33.36 miles of ditching has been completed to provide better drainage for roadbed.

BANK WIDENING.

A total of 16.81 miles of embankment was widened out by filling to strengthen track and bring the roadbed to standard width.

TILE UNDERDRAIN IN WET CUTS.

District.	8-inch.	6-inch.
	Lin. ft.	Lin. ft.
1		2,450
2	2,245	3,325
3		3,300
4		3,300
Total.....	2,245	12,375

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PROTECTION OF EMBANKMENT AND CUTTINGS.

District No. 1.—Mont Joli subdivision, at mileage 24.2, a protection wall of heavy riprap was built on the north side of the track.

District No. 2.—Fredericton subdivision, at mileage 80, a protection dyke of brush and stone, 200 feet long, was built. At mileage 83.96 a dyke 150 feet long of the same construction was built.

District No. 4.—Sydney subdivision, 1,400 lineal feet of cribwork was constructed.

ROCK CUTTINGS.

At various points on the Campbellton, Halifax, Mulgrave, and Sydney subdivision, loose and dangerous rocks have been removed from the sides and slopes of cuttings.

NEW TRACKS AND CHANGES IN MAIN LINE.

District No. 1.—Levis subdivision, between St. Romuald and Chaudière Curve, 3.12 miles of second main line have been completed. Between the Quebec Bridge connection (mileage 9.13, Levis S.D.), and the Quebec bridge, 2.37 miles of sidings have been taken over from the National Transcontinental Railway.

District No. 2.—Moncton subdivision, a cut-off 4,663 feet long was constructed between mileage 11.64, Moncton subdivision, and mile 10.76, Pacific Junction, former Napadogan subdivision, National Transcontinental Railway. This cut-off was put in service in December, 1915, and all Intercolonial trains are now run over the Napadogan subdivision of the National Transcontinental Railway from Pacific Junction to Moncton. The Intercolonial main-line track, sidings, and bridges have been taken up. Berrys Mills station on the Intercolonial was abandoned, and the National Transcontinental Railway station originally at Lutesville was moved to a new location opposite to the old Berrys Mills station, and the name changed to Berrys Mills. An agent was assigned to the station and a 600-foot loading siding and loading platform built. This change reduced the mileage of parallel line by 9.1 miles and eliminated 0.75 miles of sidings.

NEW LINES TAKEN OVER FOR OPERATION.

On January 1, 1916, the Dartmouth and Deans Railway, from Woodside to Upper Musquodoboit, 67.10 miles, was taken over for operation by the Intercolonial Railway. This branch is being constructed, under contract, by the Department of Railways and Canals. Station and other buildings, water supplies, passing and business tracks have still to be constructed.

On May 31, 1916, the Vale Railway, running easterly from New Glasgow to Thorburn, a distance of 5.42 miles, was taken over for operation. This is now shown in the time table as the "Vale Subdivision." The line was laid with 56-pound relay rail. The right of way still remains to be cleared and fenced.

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A spur line 2.42 miles long, with siding facilities, was built from mileage 120.76, Moncton subdivision, just east of Bathurst station, to the pulp and paper mills of the Bathurst Lumber Company at Bathurst, N.B. The total length of track built is 14,850 feet. The spur is now operated by the Bathurst Lumber Company.

District No. 3—	Feet.
Sackville, new siding.. . . .	550
District No. 4—	
Trenton, extension.. . . .	1,040

Summary of business sidings completed:—

District No. 1.. . . .	10,993
" No. 2.. . . .	16,987
" No. 3.. . . .	550
" No. 4.. . . .	1,040
Total.. . . .	<u>29,570</u>

BUSINESS AND OTHER SIDINGS TAKEN UP.

District No. 1—	Feet.
Carmel pit.. . . .	12,304
Blake (part).. . . .	221
Goodhue.. . . .	418
Soulard.. . . .	1,125
Total.. . . .	<u>18,399</u>

PRIVATE SIDINGS.

Location	Name of Person or Firm.	Feet.
District No. 1—		
Mont Joli, mile 8.9.. . . .	Isidore St. Laurent	1,000
" " 68.34.. . . .	Brown Corporation	6,424
Lévis " 11.8	Dry Dock Co.	3,635
" " 12.0	Davie Shipbuilding and Rep. Co.. . . .	2,034
Total.. . . .		<u>13,093</u>

District No. 2—		
Bathurst.. . . .	Bathurst Lumber Co.. . . .	3,141
Campbellton S.D., mile 43.11.. . .	Aquillas Lajoie.. . . .	440
" " 45.54.. . . .	Jos. Laforce	400
Loggieville " " 6.30.. . . .	H. A. Frank	313
Fredericton " " 57.20.. . . .	H. Holmes.. . . .	264
" " " 1.09.. . . .	S. R. McElwee.. . . .	324
Total		<u>4,882</u>

District No. 3—		
Stewiacke.. . . .	J. Lewis & Sons.. . . .	853
Halifax.. . . .	Brandram-Henderson. . . .	222
Truro S.D., mile 85.2.. . . .	C. S. Hickman.. . . .	320
Humphreys.. . . .	LeB. D. Lockhart.. . . .	230
St. John.. . . .	St. John Exhibition Associa- tion.. . . .	322
Moncton.. . . .	John H. Marks.. . . .	608
Pt. du Chêne.. . . .	Roger Miller, P.E.I. Co., Ltd.	110
Lawrencetown.. . . .	Pictou Contractors Supply Co.. . . .	380
Dartmouth.. . . .	Dartmouth Coal and Supply Co.. . . .	30
Woodside.. . . .	Acadia Sugar Refinery Co.. .	238
Port Elgin.. . . .	C. S. Hickman.. . . .	575
Total		<u>3,888</u>

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District No. 4—

Sydney S.D., mile	70.08	C. L. Osborne	700
" " "	85.70	McMillan	523
Mulgrave " "	63.4	W. Robertson	295
" " "	44.34	Cameron & Fraser	58
Trenton " "	1.78	Nova Scotia Steel and Coal Company	270
Total			1,846

Summary of private sidings constructed—

District No.	Feet.
District No. 1	13,093
" No. 2	4,882
" No. 3	3,888
" No. 4	1,846
Total	23,719

WATER SERVICE.

District No. 1.—Chaudière Junction: A standard No. 1 enclosed 40,000-gallon tank was erected to replace one destroyed by fire November 26, 1914. The old pump was dismantled and shipped to Stores department.

Trois Pistoles: Repairs were made to lower reservoir.

DeLotbinière: Tank repaired and painted.

The counter balance weights of six tanks were raised to give greater clearance.

District No. 2.—The tanks, pipe-lines, boilers and pumps at Canaan, Harcourt, Rogersville, Newcastle, Beaver Brook, Red Pine, Bathurst, Belledune, Charlo, Mata-pedia, Millstream, Routhierville, Causapsca, Petit Metis, Loggieville, Millerton, Blackville, Durham, and Gibson, were given an overhauling and repaired.

Jacquet River: New 40,000 gallon standard enclosed tank erected.

Dalhousie Junction: A new concrete dam to form a reservoir was built, and a 10-inch pipe-line laid from the reservoir to a new Sheffield-Johnson standpipe at the main line. The water pipes in the station were overhauled and repaired.

Campbellton: Repairs were made to the water tank and standpipe, to the pipe-lines for heating and watering cars, and to the toilets in the resthouse.

Val Brilliant: Arrangements have been made to replace the wood tank destroyed by fire in 1914 with a new steel 40,000-gallon tank and 10-inch standpipe. The concrete foundations for the tank have been built and the tank will be erected as soon as delivered by the manufacturers.

District No. 3.—Painsec Junction: Pipe-line for station water supply renewed.

Island Yard (St. John): Water supply and lavatories installed in the yard office.

Moncton: Water metres were installed in the general offices, car service building, gas plant, car cleaning yard, oil storage house, engine house, station and yard office.

District No. 4.—Water metres were installed in the engine houses at Stellarton and Pictou.

Extension to the water supply lines was made at New Glasgow, Tatamagouche, Westville, and Sydney.

A new pump was installed in the pump house at River John, and a second-hand boiler in the pump house at Oxford Junction.

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BUILDINGS.

New buildings, platforms, alterations, and additions to existing buildings were constructed as follows:—

District No. 1.—Mont Joli subdivision: Mont Joli, new concrete platform 750 feet by 8 feet.

Rivière du Loup: New stock pens of standard wire fence construction were erected at Ste. Helène, Ste. Louise, Carrier, River Onelle Junction, and St. Charles Junction.

Lévis subdivision: Lévis, a new freight shed 400 feet by 40 feet, including office and lavatories, was constructed. The shed is of brick with steel frame with a tar and gravel roof, on a concrete foundation. The office is steam heated, and the whole shed is lighted by electricity. There are extension cords to permit of lights being taken into cars. The building has continuous sliding doors on the track side. The shed was put in service January 1, 1916, and the old shed abandoned. The new shed was built by contract.

A coal handling plant for unloading coal from ships was constructed, for storing and loading into cars railway coal consumed between Rivière-du-Loup and Drummondville. It has two structural steel towers, 131 feet high, each fitted with a 2-ton grab bucket and hoist. The towers are movable, and have a range of 252 feet along the unloading dock. The coal is carried on an electrically driven cableway, 1,700 feet long, supported on a timber trestle, to 21 receiving pockets of 84 tons capacity each. These pockets are equipped with chutes for loading cars. The pockets, cableway, and towers were erected by contract, and the necessary tracks by the railway forces. The capacity of the plant is 500 tons per hour, with the grab buckets of both towers working. It takes the place of the locomotive plant formerly used at the Princess pier.

St. Romuald: New station platform built for double track.

Chaudière Subdivision. St. Apollinaire, new wood freight shed 50 feet by 26 feet. New two-stall outside privies were erected at St. Apollinaire and St. Perpetue, and a new mail crane at Mont Joli.

Platform scales were placed in the freight sheds at Lévis (2), Montmagny (1), Laurier (1).

Buildings were strengthened and repaired as follows: Mont Joli, engine house; Bic station, waiting room; Trois Pistoles, station roof; St. Eloi, station stairway; Isle Verte, station; St. Arsene, station; Rivière-du-Loup, machine shop and engine house; Old Lake Road, station roof; St. Helene, station roof; St. Philippe, station roof; St. Francois, station roof; St. Pierre, station; St. Valier, station; Chaudière Junction, enginehouse, boiler room, machine shop, and office; Lévis, B. & B. shop and ice-house relocated; DeLotbinière, station and agent's dwelling; Villeroy, section dwelling, St. Cyrille, agent's dwelling and station; Aston Junction, station; Manseau, station; St. Leonard Junction, station; Bagot, station; Lemieux, station; Ste. Rosalie Junction, station.

Station platforms were renewed in wood at nineteen locations, and in cinder at three locations.

District No. 2.—New stations were built on district No. 2 as follows: Derby Junction new No. 5 station and platform. Hodgins, shelter.

Standard coal sheds were built at the following points: Gloucester Junction, Belledune, St. Moise.

A standard double tool house was built at Harcourt.

Loading platforms of standard height and clearance were built at Newcastle, Chatham, and Berrys Mills; and a transfer platform of standard height, 369 feet long, at Newcastle.

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Standard freight shed platforms were built at the following points: Matapedia, Lac au Saumon.

Standard stock pens were built at the following points: Nash's Creek, Sayabec, Jacquet River.

Station platform at Doaktown was lowered to standard height and given standard clearance.

Coal bins were built as follows: Red Pine, in freight shed; Millstream, in tank.

Station and other buildings were given a general overhauling and repairs as follows: Coal Branch, station; Rogersville, station; Newcastle, station; Dalhousie Junction, station; New Mills, station; Campbellton, station; Flatlands, station; St. Florence, station; Amqui, station; St. Moise, station; Petit Metis, station; Gibson, engine-house, ice-house, and stores building.

In addition to the stations enumerated, 33 stations, 40 station platforms, 13 freight sheds, 6 loading platforms, and 1 dwelling were given general repairs.

The exteriors of the following stations were painted: Rogersville, Elm Tree, Matapedia, Millerton, Upper Blackville, Loggieville, Gibson, Newcastle.

The interiors of the following stations were painted or papered: Dalhousie Junction, Chatham, Canaan, Adamsville, Kent Junction, Newcastle.

Eight dwellings were painted on the outside at points as follows: Bartibogue, Campbellton, Matapedia (2), Millstream (2), Millerton, and Quarryville, and wood passenger platform was built at Berrys Mills, and a cinder passenger platform at Adamsville.

District No. 3.—New passenger stations were erected as follows: Humphreys, standard No. 3 station; Lantz, shelter station.

New standard passenger wood platforms were built at the following points: Shubenacadie, Stewiacke, Apohaqui, Bloomfield, Passekeag, Lakeside, Quispamsis.

Cinder passenger platforms were built at McLeods and Model Farm.

Standard coal houses were built at Lakeside, Anagance, and Torryburn.

Three passenger and freight platforms were renewed as follows: Greenville, station platform; Amherst, freight shed; Plumweseep, station platform.

Standard stock pens were erected at Petitcodiac, Penobsquis, Apohaqui, and Passekeag.

A new standard freight shed and machinery platform was built at Oxford Junction.

At Moneton repairs and additions were made at the shops, roundhouse, stores and office buildings, etc., new skylights on mechanical shops; office rearranged in stores building; floor in boiler shop renewed; roofs insulated, passenger car shop and brass foundry; new hydrant house at shops; transfer platform at freight shed extended 80 feet; and umbrella roof constructed; brass foundry extended 50 feet; planing mill roof trusses repaired.

District No. 4.—New stations were built as follows: Trenton, new standard No. 2 station, with wood passenger platform, 357 feet long; Sylvan Valley, shelter station.

Passenger platforms were renewed at the following places: North Sydney, West River, Eureka, Merigomish, Marshy Hope, Westville, Sylvan Valley.

Standard wire fence stock pens were erected at Lansdowne, Conns Mills, Pugwash.

Station and other buildings were raised standard height above the track, or had projections cut off to give standard side clearance, at Iona, Denmark, River John.

Coal bins and coal houses were built at Sylvester, Marshy Hope, Merigomish.

A new track scale was installed at Sydney Mines.

A freight shed platform was built at North Sydney.

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Buildings and wharves were repaired, moved, and painted as follows: The old North Sydney Junction station was moved to a point on the main line east of Georges River station. Little Bras d'Or, outside porch built. Sydney, station painted outside, platform and hand-rail put in high tank, and new toilets installed. Stellarton, engine-house and turntable repaired, and concrete water metre-house built. New Glasgow, station rearranged. James River, freight shed repaired. Scotsburn, freight shed moved to new location. Pictou, turntable and wharf repaired. Pugwash, wharf repaired. Trenton, new loading platform built, and lighting posts installed on platform.

FENCING, NEW AND REPAIRS.

New standard wire fence, 108.27 miles, was erected as follows:—

District:	New Wire Fence.	Wire Fence Repaired.
	Miles.	Miles.
1.....	37.45	
2.....	18.77	0.47
3.....	16.15	
4.....	35.40	
Total.....	107.77	0.47

TERMINAL IMPROVEMENTS.

District No. 1.—Mont Joli: The main-line track was straightened to permit of a switching lead being installed to facilitate switching movement. A concrete platform was constructed at the station. A siding for loading potatoes was put in and the track scale moved to a new location at the west end to relieve congestion in the yard. This track was extended westwardly to give more space for weighing operations. A feed-water heater, with necessary piping, was installed in the engine-house.

An engine-type generator was installed in the engine-house to supply current for lighting the engine-house, passenger station, ice-house, freight shed, and offices. Wall-type reflectors with 100-watt lamps were installed in the engine-house and complete wiring system in iron conduit was installed in all buildings.

Rivière-du-Loup: A second track was laid across the *Rivière-du-Loup* bridge to facilitate switching operations. A siding was built in *Gauvreau* yard for the storage of disabled cars. The electric lighting system in the engine-house was improved by the addition of tungsten lamps with reflectors, and the wiring put in iron conduit. A new boiler feed pump as an auxiliary was put in, and a vacuum pump added to improve and reduce the cost of heating the shops and engine-house.

Chaudière Junction: The electric lighting and boiler feed pump systems were improved by the installation of 100-watt tungsten lamps and a feed water heater.

District No. 2.—Campbellton: The heating system in the engine-house was improved by the installation of a vacuum pump and a change in the system to heat by exhaust instead of live steam, to effect greater economy in fuel consumption. A feed water heater and an auxiliary boiler feed pump were put in. Electric lighting fixtures were installed on the platform where cars are watered.

Gibson: The boiler in the engine-house was replaced with a second-hand boiler.

District No. 3.—Halifax: The track rearrangement on new pier No 2 was completed. A new timber coping was placed on the retaining wall at the car cleaning plant, and electric and water metres installed in new pier No. 2 to register electric

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current and water used. The railway power wires were repaired, and poles on the city's streets were repainted. Cluster lights were installed on piers 2 and 9 to facilitate loading of transports at night.

Windsor Junction: The capacity of the yard was increased by 100 cars by the installation of 4,900 feet of sidings, and train movement facilitated by the addition of three cross-over tracks.

Rockingham: Additional storage for 480 cars was provided by installing 19,200 lineal feet of sidings. The station and freight shed were wired for electric lighting.

Richmond: Additional tracks totalling 3,220 feet were installed, increasing the storage capacity of the yard by 65 cars.

Moncton: The Main street subway and track changes in connection therewith were completed. A fire protection system was installed at the new shops. A radial brick chimney, 175 feet high, was built, eliminating two draft fans, steam operated, with a view to effecting economy in maintenance and operation. A feed water heater of greater capacity was installed, and electric-driven sump pump and a 500-k.v.a. synchronous motor condensor, 940-k.v.a. turbo generator, were installed in the power-house, to effect greater economy and to improve the voltage regulation, thus increasing the capacity of the power-house. A duplex compound air compressor was installed in the engine-house. An auxiliary generator for charging the batteries of electrically lighted cars was installed in the car shops.

Cast-iron lamp posts, fitted with high power nitrogen gas-filled lamps, were installed to improve the lighting to the approaches of the passenger station.

The private telephone lines through the railway yards were renewed, and seven new telephones added to the system.

Water meters were installed in the general offices, car service building, gas plant, car cleaning yard, engine-house, coaling plant, and oil storage house, to effect a saving in water consumption and reduce the expense.

Sidings were constructed in the yard for the storage of scrapped locomotives, car storage, scrap unloading, rail saw, and official cars, total of 4,850 lineal feet.

A rearrangement of the station driveways and grounds was made.

Truro: A boiler feed pump and feed water heater was installed in the engine-house. A vacuum pump was put in, and the heating system in the engine-house was altered to use exhaust instead of live steam.

District No. 4—Sydney: Feed water heater and air compressor installed in the engine-house. The electric lighting system in the engine-house was improved by the addition of 100-watt tungsten lamps, and the wiring put in iron conduit. A boiler feed water heater and duplex air compressor were also installed in engine-house.

Point Tupper: A boiler feed pump and feed water heater and vacuum pump were installed in the engine-house. The heating system was changed from live to exhaust steam, to effect greater economy.

Stellarton: The electric lighting in the engine-house was improved by the addition of 100-watt tungsten lamps, and the wiring put in iron conduit. A water meter was installed. A feed water heater was installed in the engine-house. A cross-over was put in the main line at the station to facilitate the movement of trains.

DAMAGE BY FLOOD.

District No. 2.—A freshet in the Nashwaak river in the spring of 1915 flooded the track at four locations on the Fredericton subdivision, doing considerable damage to the roadbed.

District No. 3.—A high tide on September 27, 1915, at Point du Chene damaged 150 feet of the roadbed.

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District No. 4.—High tides damaged the roadbed at Pietou Landing, Pugwash, Brown's Point, and Loch Broom.

DAMAGE BY FIRE.

Location.	Date.	Damage.
District No. 1—		
Riv.-du-Loup S.D.—		
Mile 108.	September 30, 1915	102 rods wire fence.
" 109.	" 30, 1915	40 " "
Lévis S.D.—		
Ville Marie	October 1, 1915	Station platform damaged.
St. Romuald.	May 27, 1915	Roof of station damaged.
Chaudière S.D.—		
St. Leonard.	June 2, 1915	175 ties burned.
Daveluyville.	August 3, 1915	24 " "
Mile 1'5.	" 3, 1915	150 fence posts, 7 telegraph posts.
Ste. Rosalie Jct.	June 27, 1915	Station slightly damaged.
District No. 2—		
Moncton S.D.—		
Mile 147'5.		400 fence posts and 40 rods fence wire.
District No. 3—		
Halifax S.D.—		
Old Pier No. 2.	March 14, 1916	Wharf 525 x 80, shed 487 x 47, six box cars.
District No. 4—		
Sydney S.D.—		
Boisdale.	January 7, 1916	Station and part of platform.
Point Tupper.	March —, 1916	Foundation boiler house.

SURVEYS.

Resurveys for standard right of way plans have been made as follows: District No. 4, Mulgrave S.D., mile 0.0 to 42.0, 42 miles.

Surveys and plans for standard track profiles have been completed as follows:—

District No. 1—			Miles.
Nicolet S.D.	Mile 0.0 to 16.8.		16.8
Chaudière S.D.	100.0 " 115.8.		15.8
Riv.-du-Loup (Wharf Br.)	" 0.0 " 4.2.		4.2
Riv. Ouelle.	" 0.0 " 6.5.		6.5
Quebec Br. Connection.	" 0.0 " 2.4.		2.4
			45.7
District No. 2—			
Campbellton S.D.	Mile 80.0 to 100.0.		20.0
Fredericton S.D.	" 0.0 " 110.7.		110.7
Loggieville S.D.	" 0.0 " 13.8.		13.8
Dalhousie S.D.	" 0.0 " 6.7.		6.7
			151.2
District No. 3—			
St. John S.D.	Mile 0.0 to 89.3.		89.3
Pt. du Chêne S.D.	" 0.0 " 12.0.		12.0
Dartmouth S.D.	" 0.0 " 15.0.		15.0
N.B. and P.E.I.	" 0.0 " 36.0.		36.0
			152.3
District No. 4—			
Mulgrave S.D.	Mile 0.0 to 42.0.		42.0
Vale S.D.	" 0.0 " 5.4.		5.4
Sydney S.D.	" 75.0 " 91.5.		16.5
			63.9
Total.			413.1

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Station-ground yard plans have been completed as follows:—

	Plans.
Mont Joli S.D.	11
Rivière du Loup.	18
Lévis.	5
Chaudière.	23
Nicolet.	1
Rivière Ouelle Wharf Branch.	2
Moncton.	10
Dalhousie.	1
Campbellton.	9
Fredericton.	20
Loggieville.	2
Halifax.	11
St. John.	23
Truro.	21
Dartmouth.	2
Pt. du Chene.	3
Sydney.	21
Stellarton.	4
Trenton.	1
Sunny Brae.	2
Total.	190

TRACK CENTERING.

Track has been recentered and curves spiralled as follows:—

District No. 1.	30'15
" No. 2.	128'69
" No. 3.	21'05
" No. 4.	31'50

CONSTRUCTION SURVEYS.

Grade reduction and line improvement surveys were made as follows:—

	Miles.
Reconnaissance.	310
Preliminary and projected location.	354
Location.	102
Track record surveys.	37
Inspection of survey lines.	128
Inspection of proposed routes.	37

BRIDGES AND CULVERTS.

Repairs and renewals to bridges and culverts have been made as follows:—

District No. 1.—Mont Joli Subdivision: Mile 60.7—An overhead bridge, carrying a highway, consisting of a converted through lattice girder on concrete abutments, was completed.

Mile 83.3.—The bridge over the Rivière-du-Loup was completed, and final coat of paint applied.

Bridges 14.1 and 56.9 were finally completed.

One I-beam span was replaced with a 30-inch C.C. pipe and fill.

Six wooden stringer openings were replaced with concrete pipe and cast-iron culverts and filled.

Three concrete rail covers with ballast floors were substituted for I-beam stringers and open-wood decks.

Two bridges had the decks renewed.

The masonry abutments of one bridge were repaired; five bridges were painted, and one wood box culvert renewed.

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Rivière-du-Loup Subdivision: Bridges, 3.9, 21.7, 24.3, 26.6, 28.3, 35.5, 35.6, 47.3, 57.7, 77.5, and 77.8, all of which were practically completed last year, were given a final coat of paint, and are now complete.

Mile 111.0—Two new concrete abutments and one pier were built by contract and a new 50-foot D.P.G. span was put in.

Two wood stringer openings were replaced with concrete pipe culverts, and filled.

Two concrete rail covers, with ballast floors, were substituted for I-beam stringers and open-wood decks.

Three bridges were given light repairs.

Old bridges painted, six.

Culverts filled, one.

Lévis Subdivision: The following new bridges which were practically completed last year were given a final coat of paint, and such other work as was necessary to complete them: 17.96, 18.15, 19.7, 20.1, 20.3.

Mile 19.5—Old steel span replaced with two spans from mile 18.3, with alterations to existing masonry and new bridge seats and ballast walls.

Mile 20.2—A new D.P.G. span for second track was erected.

Mile 20.8—N.T.R. overcrossing was completed this year. The bridge now consists of a 3-span D.P.G. bridge on concrete and masonry abutments.

I-beam spans were replaced with concrete rail culverts at two locations.

A wood stringer opening was replaced with concrete pipe culvert and fill at mile 18.0.

One wood box culvert was renewed and one culvert filled.

Chaudière Subdivision: The following new bridges, which were practically completed last year, were given a final coat of paint and such other work as was necessary to complete them was done: 2.2, 6.6, 13.0, 13.2, 23.6, 24.5, 30.7, 31.7, and 43.1.

Mile 50.8—Gentilly River, 30-foot through plate girder span was erected, and a new concrete abutment built.

Two I-beam spans were replaced with concrete rail culverts.

Ten wood stringer openings were replaced with concrete pipe culverts, and filled.

Twenty-four bridge decks were renewed.

Four wood box culverts were replaced with concrete pipe culverts, and one wood box with a concrete rail culvert.

The masonry was repaired at eight bridges.

Five bridges were repainted.

One wood box culvert was renewed.

Four culverts were filled.

Quebec Bridge Connection: The masonry of the Chaudière River bridge was repaired.

District No. 2.—Moncton Subdivision: Kouchibouquacis River—An 85-foot D.P.G. span was erected complete on the new masonry built last year.

The following new bridges, which were practically complete last year, were given the final field coat of paint, and completed: 61.2, 65.1, 118.1, 125.5, 136.2, 152.5, 159.8.

The decks on twelve bridges were renewed.

The masonry of seventeen bridges was repaired.

Fifteen bridges were repainted.

Mile 80.0—Highway over-crossing, new concrete abutments built. The old rail truss will be replaced in 1916-17 with a 64-foot lattice girder span.

Mile 120.7—Highway over-crossing, new concrete abutments built. The old rail truss will be replaced in 1916-17 with a 105-foot lattice girder span.

Mile 152.5—Highway over-crossing, new concrete abutments built. The old rail truss will be replaced in 1916-17 with a 105-foot lattice girder span.

Mile 10.6—The span was removed from this bridge on account of the abandonment of the main line of the I.R.C. between mileage 2 and 11.6.

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Campbellton Subdivision: New bridges which were practically completed last year were given a final field coat of paint and completed as follows: 5.2, 43.4, 58.6, 102.1.

Mile 91.10—A new wood overhead farm crossing bridge.

Mile 104.7—An I-beam span on masonry walls was replaced with a concrete rail top culvert.

The decks were renewed on seven bridges.

The masonry of two bridges was repaired.

Twenty-five bridges were repainted.

Fredericton Subdivision: New bridges which were practically completed last year were given a final coat of paint and completed as follows: 49.2, 86.9, 105.3.

Alterations to bridge seats and ballast walls for heavier steel spans have been made at bridges 13.5, 13.6, 13.9, 20.9, 21.5, 70.6, 99.3 and 99.4. New steel spans will be erected in 1916-17.

Mile 62.7—New concrete abutments have been built. A 30-foot through plate girder will be erected in 1916-17.

Mile 92.4—New concrete abutments have been built. A 28-foot deck plate girder will be erected in 1916-17.

Mile 95.3—New concrete abutments have been built. A 23-foot I-beam span will be erected in 1916-17.

Mile 102.6—The grade at this bridge was raised 3 feet. Material for a concrete pile trestle is now on the ground for erection in 1916-17.

Fifteen stringer openings were strengthened to permit of the running of heavier engines.

Four wood box culverts were replaced with concrete pipe culverts.

One wood box was renewed.

Five culverts were repaired.

Four bridges were repainted.

Loggieville Subdivision: The steel work of two bridges was cleaned and painted.

Bathurst Spur, Mile 0.5—A through plate girder span 88 feet long was erected over the Little river.

District No. 3.—Halifax Subdivision: Mile 1.0—Richmond yard, a steel overhead foot bridge composed of two through trusses, 118 and 60 feet, respectively, with stairway for ascending to the street level, was erected complete.

The following bridges which were practically completed last year were given a final field coat of paint and completed: 9.1, 18.2, 19.5, 20.5, 29.4, 38.2, 57.9, 58.4.

Mile 34.8—A rail concrete cover with ballast floor was substituted for an open wood deck.

Culvert repaired, 2.

Bridges painted, 2.

Wood culverts replaced with concrete pipe, 20.

Truro subdivision: The following bridges, which were practically completed last year, were given a final field coat of paint and completed: 8.2, 14.5, 23.2, 47.1, 80.1.

Mile 79.5—Highway over-crossing, new concrete abutments have been completed. A 105-foot through lattice girder has been fabricated and shipped to the site for erection in 1916-17.

Mile 96.3—Palmer's Pond, a D.P.G. span, 82 feet long, was erected complete.

Mile 97.0—Dorchester subway, a 24-foot I-beam span, 23 feet long, was erected and completed.

Mile 111.2—Memramcook river, a D.P.G. span 63 feet long was erected and completed.

Mile 124.6—Main street subway, Moncton. This work has been practically completed. Culverts repaired, six. Culverts replaced with concrete arches, one. Repairs to bridge masonry, fourteen. Bridges cleaned and painted, five.

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St. John Subdivision: Mile 64.4—Highway over crossing, new concrete abutments built. A 105-foot through lattice girder has been fabricated and shipped to the site for erection in 1916-17.

Mile 68.5—Highway over-crossing. new concrete abutments have been built. A 105-foot through lattice girder has been fabricated and shipped to the site for erection in 1916-17.

New decks on bridges, three. Bridges cleaned and painted, eighteen. Bridge and culvert masonry repaired, nineteen. Concrete rail top culverts replacing stringer openings, seven. Rail concrete covers replacing stringer openings and wood deck, two. Concrete pipe culverts replacing other culverts, four.

Dartmouth Subdivision: Culverts replaced with concrete and cast-iron pipe, two. Repairs to masonry of bridges, one. New decks on bridges, two. Concrete rail top culverts, one.

Point du Chene Subdivision: Mile 8.1—Alterations were made to the masonry and a new steel superstructure composed of one 65-foot 6 inches and three 64-foot 6 inches D.P.G. spans was erected complete.

District No. 4.—Sydney Subdivision: Mileage 9.8—River Inhabitants. The masonry has been altered to fit a new steel superstructure composed of one D.P.G. 53 feet, and one T.P.G., 104 feet. The steel work has been received and is being erected.

Mileage 11.34—Dowling's Gulch. A steel trestle is being replaced with a 10-foot concrete arch and fill. The arch is complete, and filling has been started, work being done under contract.

Mileage 12.9—McDonald's Gulch. A steel trestle is being replaced with a 10-foot rail top culvert and fill. The culvert work has been started and will, with the filling, be completed in the latter part of 1916. Work is being done by contract.

Mileage 23.1—River Deny's. The masonry has been altered to fit a new steel superstructure composed of one T.P.G. 78 feet 5 inches and one T.P.G. 104 feet long. The steel has been fabricated and will be on the site in 1916, when erection will be proceeded with.

Mileage 27.3—Mill Brook. A steel trestle is being replaced with a 14-foot concrete culvert and fill. The culvert is complete, and the filling will be finished in the fall of 1916. Work is being done under contract.

Mileage 87.3—Ottawa Brook. The steel trestle is to be replaced with a heavier trestle. The new concrete substructure has been completed, and the steel fabricated and partly shipped. The erection will be completed in 1916-17.

Mileage 38.6—Walker's Gulch. The steel trestle is to be replaced with a heavier trestle. The new concrete substructure has been started, and will be finished early in 1916. The new steel work has been fabricated and will be shipped to the site and erected in 1916-17.

Mileage 40.9—Jamesville No. 1. The steel trestle is being replaced with a 48-inch cast-iron pipe culvert, encased in concrete, and fill. The culvert has been completed and filling started. The work will be finished in the fall of 1916. Work is being done under contract.

Mileage 41.1—Jamesville No. 2. The steel trestle is being replaced with a 48-inch cast-iron pipe culvert, encased in concrete, and fill. The culvert has been completed and the filling will be started in the spring and completed in the fall of 1916. Work is being done under contract.

Mileage 41.6—Jamesville road. The masonry has been altered to fit a heavier span. New steel work—a 330-foot D.P.G.—has been fabricated; it will be shipped to the site in the spring of 1916, and erected.

Mileage 45.7—The grade of the track was raised 3 feet, and a heavier superstructure, composed of six 238' 6" trough-truss spans and a 241-foot swing span of the through-truss type, fabricated and delivered on the site. The fixed spans were erected complete, and the work on the swing span started. The whole bridge will be com-

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pleted early in 1916. Plans have been prepared and material purchased for automatically interlocking the swing span.

Mileage 60.0—A 60-foot through plate girder span was replaced with a double 14-foot rail concrete culvert and fill.

Mileage 91.2—Leitches Creek. The 102-foot through-truss span is to be replaced with a through-plate girder designed to carry heavier engines. The necessary alterations to fit the new span have been made to the masonry. The new steel work has been fabricated, and will be shipped to the site and erected in 1916.

Mileage 92.3—Balls Creek. The 103-foot through-truss is to be replaced with a through plate girder, designed to carry heavier engines. The necessary alterations have been made to the masonry to fit the new span. The steel work has been almost completely fabricated and will be shipped to the site and erected in 1916.

Mileage 92.7—Campbell's Brook. The present through plate girder will be replaced with a through girder of heavier design. The necessary alterations have been made to the masonry to fit the new span. The steel work has been fabricated and will be shipped to the site and erected in 1916.

Mileage 98.6—Sydney River. The present 103-foot through-truss will be replaced by a through plate girder of heavier design. The necessary alterations have been made to the masonry; the new steel work has been fabricated and shipped and will be erected in 1916.

The following new bridges, practically completed in 1914-15, have been given a final field coat of paint and completed: 87.4, 88.0.

Bridges strengthened with temporary bents to carry heavier engines, thirteen.

Mulgrave Subdivision: Mileage 0.05—Leper Brook. Two 24-foot I-beam spans to replace old box girder under the main line and siding were shipped and erection started. They will be completed early in 1916.

Mileage 56.1—French river. A through plate girder 87 feet long of heavier design was erected complete on the existing masonry.

Mileage 89.5—South river. Pile bridge replaced with a 14-foot rail concrete culvert.

Mileage 93.4—Taylor's meadow: Pile bridge replaced with a 6-foot rail concrete culvert.

The following new bridges, which were practically completed last year, were given a final field coat of paint and completed, 65.9, 81.1, 82.2, 84.5, and 120.3.

Wood wall stringer openings replaced with cast-iron pipe culverts, three.

I-beam spans replaced with concrete rail culverts, four.

Bridges painted, four.

Bridges repaired, one.

The ferry slips at Mulgrave and Point Tupper were altered to fit the new *Scotia*.

Stellarton Subdivision: One wood stringer opening was replaced with a concrete arch pipe culvert, and the Pictou Harbour bridge was strengthened and repaired.

BRIDGE SURVEYS.

In the field, 806 bridges have been measured up and the office record books completed.

TURNTABLES.

The turntables at Mont Joli, Rivière-du-Loup, Chaudiere Junction, Laurier, and Ste. Rosalie Junction, were overhauled and repaired.

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STATION GROUND BEAUTIFICATION.

Station ground improvement and beautification was begun, and grass plots and flower beds have been put in as follows:—

		Stations.
District	No. 1..	9
"	No. 2..	10
"	No. 3..	5
"	No. 4..	5

TIE PLATES.

Standard shoulder tie plates were put in the main line track as follows:—

District	No. 1..	7,200
"	No. 2..	23,600
"	No. 3..	18,720
"	No. 4..	94,400
		<hr/> 143,920

SIGNALS.

Four interlocked home signals were installed to give protection to trains crossing the C.P.R. line at grade at Drummondville.

SEMAPHORES.

Semaphores were renewed at Harcourt, Derby Junction, Petit Rocher, Jacquet River, Charlo, Eel River, Doaktown.

Fifty-five standard two-position train order signals were purchased for installation in 1916-17 at stations on districts 2 and 3.

ELECTRIC LIGHTING.

The following stations were wired for electric light, exclusive of terminal points previously noted: Milford, Dalhousie.

Repairs were made to electric lighting system at—

St. John—Primary power wires.
 Moncton—Coaling plant.
 Sussex—Freight shed and office.
 Amherst—Freight shed and office.
 Sackville—Baggage room.
 Newcastle—Baggage room.
 Rivière du Loup—Freight shed and baggage room.

Thirty-five additional electric lights were installed throughout the ship *Prince Edward Island* to obtain the required illumination.

CROSSING GATES.

Crossing gates were installed at Main Street crossing, Sussex, N.B.

CROSSING BELLS.

A crossing bell was installed at the highway crossing at Little Bras d'Or, Sydney subdivision.

GENERAL.

Concrete culvert pipe was manufactured by the railway forces as follows:—

	Lineal feet.
36" round..	1,324
30" "	424
24" "	1,980
18" "	3,008
36" arch..	135
30" "	287
24" "	222
Total	<hr/> 7,380

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RAIL RACKS.

About 1,520 pairs of concrete rail racks, giving one pair to the mile, have been manufactured and delivered over the entire system, and are now being put in place.

SAFETY FIRST.

"Safety first" signs have been distributed and put up in all conspicuous places: At public road crossings, section tool houses, freight sheds, stations, and at other points.

C. B. BROWN,

Chief Engineer.

HALIFAX OCEAN TERMINALS.

Since the date of my last report, 31st March, 1915, the works then described as in progress under contracts Nos. I, II and III in connection with the Halifax ocean terminals have been continued steadily throughout the whole year, and good progress has been made on both the railway and dock works.

HALIFAX OCEAN TERMINALS RAILWAY.

Contracts Nos. 1 and 2 (let as one contract).

Contractors, The Cook Construction Company, Limited, and Wheaton Bros.

Works included: Contract No. 1, grading of railway from Rockingham to Jubilee House, about $3\frac{1}{2}$ miles, and including the formation of a freight terminal yard in Bedford basin, and a diversion of the Intercolonial railway at Fairview. Contract No. 2, grading of railway from Jubilee House to Halifax harbour, including filling along the west shore of Halifax harbour for proposed bulkhead quays and piers, and the construction of a rubble-mound breakwater.

Date of acceptance of offer, July, 1913. Work begun, July 31, 1913. Date specified for completion of works, July 1, 1915. Estimated amount of contracts:—

Contract No. 1.. . . .	\$ 407,995 00
" No. 2.. . . .	1,035,160 00
	<hr/>
	\$1,443,155 00

Percentage of work done (based on estimated cost of \$1,443,155): During year 1915-16, 65 per cent.

The time for the completion of the works under contract 1 and 2 expired July 1, 1915, and was extended to January 1, 1916, and again until October 1, 1916.

The works under these contracts have been considerably increased by the extension of the terminal yard in Bedford basin; the widening of the cutting between Stanford's pond and Mumford road for better drainage; deepening the cutting from "Oaklands" to Young avenue; widening of the cutting and terminal yard from Bower road to Pleasant street; extension in length of breakwater; and the filling of the core for proposed pier "B."

GRADING.

Rockingham to Fairview.—Early in the year it was decided to extend the new freight terminal yard northward from Mount St. Vincent academy to the south shore of Birch cove, and the filling from station 203 to station 235 (I.R.C. chainage) is accordingly being widened from a double-track embankment to the full width now required for the yard tracks.

About 75 per cent of the filling required for the enlarged yard is completed between station 160 and station 203 (I.R.C. chainage) and between these stations about 80 per cent of the heavy riprapping for the protection of the sea slopes of the yard has been completed.

Between station 158 and station 148 (I.R.C. chainage) filling for the altered and additional tracks leading to Richmond is being proceeded with, using materials from Fairview subway excavations.

Switching lead and yard tracks have been laid by the Government railways forces on a portion of the terminal yard, providing standing capacity for 650 cars, and these tracks have been used during this winter season.

Station 0+00 (= Station 178+88.9 I.R.C. chainage) to station 27+80. Commencement of new railway to Halifax and South Western Railway crossing.—From station 0+00 to station 20+00 the raising of the grade of the existing main line has been deferred until the close of this winter season's shipping traffic. From station 20+00 to station 27+80 the grading is nearly completed except at Fairview subway, where the excavations for lowering Kenpt road, Dutch Village road, Bedford, and Campbell roads to pass through the proposed subway are about 30 per cent completed.

Four dwelling houses have been moved off the right of way and placed on new concrete foundations on Government lands clear of the road diversions and railway grading.

Station 27+80 to station 161+00 Halifax and South Western Railway Crossing to Cobourg Road.—The cuttings and embankments are practically formed to the required widths and grade throughout, but the slopes are still to be trimmed, and the subgrade and side ditches finished. From station 31 to station 37 the soft black mud and moss which formed the bottom of Stanford's ponds were removed down to hardpan and rock bottom and backfilled to subgrade with rock obtained from the railway cuttings further south.

Temporary wooden foot bridges over the railway cuttings have been erected west of Prince Arthur street and on the line of Cobourg road. The latter also carries a temporary wooden flume which carries the flow of the main sewer across the cutting.

Temporary wooden bridges and roadways suitable for vehicular and pedestrian traffic have been constructed north of and clear of the sites of the permanent bridges to be erected at Jubilee road and Cobourg road.

A temporary road for use during the construction of the railway has been made along the west side of the right of way and across the "Anderson" property to connect Cobourg and Jubilee roads.

Station 161+00 to station 182+50, Cobourg Road to Oakland Road.—The rock cutting has been drilled and blasted in two lifts to final grade and width throughout, but there is an average depth of about 15 feet of rock still to be excavated from the bottom of the cutting.

Temporary crossings over the cutting at grade and by temporary timber bridges, and Temporary roads on the west side of the cutting have been provided from time to time as required between South street and Oakland road for the use of the public.

Private roadways have been constructed to give access from the late Sir Sandford Fleming's property, "The Lodge," to Cobourg road and South street in lieu of the

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old driveway now abandoned across the railway right of way to Oxford street. The roadway to "Birchdale" and "Thornvale" has also been diverted where it joins Cobourg road inside and along the west side of the railway right of way.

Station 182+50 to station 217+00, Oakland Road to "Maplewood" Driveway.—This cutting has been excavated almost to full bottom width and depth throughout, but the slopes have still to be trimmed, subgrade formed, and side ditches taken out.

The temporary roads and crossings at grade have been maintained at station 205+50.

Station 217+00 to station 241+00, "Maplewood" Driveway to Young avenue.—Additional right of way has been taken to cover the whole of the blocks east of Tower road from the south side of Owen street to the north side of Clarence street, and revised plans have been adopted for widening the cutting so as to greatly improve the terminal yard approaches and provide for future extensions.

The bottom width of the cutting varies from 35 feet at the present Bower road crossing to about 200 feet at Young avenue, and is now about 70 per cent excavated mostly to permanent grade.

Two dwelling-houses on Young avenue have to be moved off the site of the cuttings and new sites and foundations for these houses are being prepared on the west side of Young avenue north of Owen street, and to these the houses will later be moved bodily.

Station 241+00 to station 264+00, Young avenue to Pleasant street.—The excavation of the terminal yard areas between Young avenue and Pleasant street has been continued mainly along the west side of the main receiving and departure yard between Young avenue and old Pleasant avenue.

A new temporary road for vehicular traffic has been constructed on the south side of the railway yard cuttings, from Young avenue eastward along Clarence street and north eastwards to Owen street and thereby to Pleasant street.

FILLING EAST OF PLEASANT STREET.

The filling of the areas to be reclaimed from the harbour has been continued behind the sites of the north quay of basin No. 1 and of the bulkhead passenger landing quay.

The high-level filling for the passenger train shed, etc., has been extended up to those buildings in H. M. lumber yard and at the gas works, which are still in use and cannot at present be removed.

PERMANENT DRAINAGE.

The following concrete culverts have been built:—

Station 187+25—Two feet by 2 feet 9 inches by 45 feet, box culvert under main line.

Kempt Road—Three feet by 8 feet by 128 feet, box culvert to carry brook from Stanford's ponds under lowered road approach to Fairview subway, east side.

Quinpool Road—Two feet by two feet 9 inches by 135 feet. To carry surface water from berm ditches under road.

Work has been begun on the new concrete lined channel 7 feet 6 inches by 9 feet by 187 feet to carry the Stanford's ponds brook where lowered through the Carritte Paterson Manufacturing Company's property, and thence under the I. R. C. main line into Bedford basin by a 6 feet by 9 feet by 90 feet rail top concrete culvert.

The timber culverts and drains to pass the water and drainage from the west side through the widening and terminal yard filling in Bedford basin have been extended as required from time to time.

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WATER SUPPLY.

The water main in Cobourg road has been temporarily diverted and arrangements made from time to time as the excavations proceeded to maintain an uninterrupted service.

A 6-inch diameter cast-iron pipe-line has been laid by arrangement with the city of Halifax along the west side of the railway right of way from Bower road to "Belmont," with branch connections to the cottages in the "Marlborough Woods" and to "Belmont."

A permanent water pipe crossing under the railway has been put in at station 126 to maintain the supply to "Armdale," and a similar temporary pipe crossing has been put in at station 136 to connect the old "Jubilee" pipe line.

A branch water-pipe line 1½ inches diameter has been laid from the city main in Cobourg road following the private roadway to "Fairfield," and another branch 2-inch diameter pipe has also been laid from the same main along the "Birchdale" road and to "The Lodge" and "Thornvale."

POLE LINES, WIRES AND CABLES FOR TELEGRAPH, TELEPHONE AND ELECTRIC POWER TRANSMISSION.

The poles, wires, and cables of the Western Union Telegraph Company, Canadian Pacific Railway Company Telegraphs, Intercolonial Railway Signal System, Maritime Telegraph and Telephone Company, Halifax Electric Tramway Company's electric lighting and power lines, military cables, etc., have been taken down and removed, diverted, reconstructed and altered where required by the new works or for safety, or in order to be clear of the contractors' plant and operations. Great care has been taken in all cases to maintain these services as far as possible without interruption.

GAS WORKS.

Arrangements have been made with the Halifax Electric Tramway Company, Ltd., for the construction of new gas works on sites at the north end of H. M. lumber yard east of the line of Water street produced southward, and on the west side of Water street between Morris and Fawson streets. Grading and other works for the construction of these new gas works are in progress, and when the new works are sufficiently advanced the old gas works on the site of the proposed new train shed will be removed and the filling, etc., for the train shed continued.

BREAKWATER.

The construction of the rubble mound breakwater from the west shore of Halifax harbour at "Prince of Wales Cove" to "Reid Rock" has been continued throughout the year. The rock filling for the "Core" is practically completed and the heavy riprap protecting the slopes is about 75 per cent completed. A large portion of the heavy rock for paving the top surface of the mound has been delivered on the breakwater, and is ready for setting.

Settlement of the rubble mound has been found fairly regular, and there has been no trouble arising from slips or slides.

The beneficial effects of the breakwater upon the terminal site protected by it, have been very noticeable, especially on the dredging and quay wall construction work.

DOCKS (FIRST UNIT).

Contract No. 3.

Contractors: Messrs. Foley Bros., Welch, Stewart & Fauquier.

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Works included: Dredging and filling, quay walls, substructures for transit sheds and buildings, sewers and other works.

Date of acceptance of offer: November, 1913.

Work begun: March, 1914.

Date specified for completion of works: All work north of cope line of north quay of pier "A," May 1, 1916; all other works, May 1, 1917.

Estimated amount of contract: \$5,250,000.

Percentage of work done March 31, 1915 (based on estimated cost of \$5,250,000), 3.86 per cent.

Percentage of work done March 31, 1916 (based on estimated cost of \$5,250,000), 34.23 per cent.

Percentage of work done during year 1915-16, 30.37 per cent.

SUBMARINE ROCK DRILLING AND BLASTING.

The drilling and blasting of the rock to be removed from the basins and sites of the quay walls was carried on up to the 8th August, 1915, by drill boat No. 1. After that date a second drill boat, similar to but larger than No. 1 and fitted with ten "Key-stone" drills of the well-sinking type as against the seven similar drills on drill boat No. 1 was brought into operation.

The two drill boats have been working continuously day and night, with only such slight delays as were due to minor breakdowns and repairs.

"Drill boat No. 1" working in good rock has drilled and blasted as much as 2,500 cubic yards in one week, and "drill boat No. 2," 3,500 cubic yards per week. Under ordinary working conditions the two drill boats drill and blast 3,000 to 4,000 cubic yards of rock per week.

Very satisfactory progress has been made, and this work should be completed well within contract time.

At the present time about 24,000 cubic yards of rock have been drilled and blasted ahead of the dredging.

DREDGING.

Dredging of the inner or west ends of the basins and of the sites of the quay walls was continued up to the end of June, 1915, by the dipper dredge *King Edward*. Since that time, the dredging has been carried on by the larger and more powerful dipper dredge *Cynthia*, which is capable of dredging in hard materials to a depth of 50 feet, and has been fitted with an 8½ cubic yards manganese steel bucket specially designed for dredging rock and hard materials.

The dredging beyond the depths which could be reached by the dipper dredges has been continued by the 5½ cubic yards orange peel dredge *Lord Kitchener*, and the maximum depth to which foundations have had to be carried is about 75 feet below L.W.O.S.T.

The total dredging under this contract is about 70 per cent completed. The portions of basins Nos. 1 and 2 which had to be deepened have been dredged nearly to the full required depths with the exception of a small portion of the south half of basin No. 2, which has still to be drilled and blasted.

The materials dredged from the basins consist of mud, hardpan, and very seamy hard shale or slate rock with the strata irregular and much displaced and crumpled.

The dredging for the quay walls of basin No. 1 and the head wall of pier "A" is practically completed.

The dredging for the south side of pier "A" and for the west or bulkhead quay of basin No. 2 is about 50 per cent completed, and the dredging for the bulkhead passenger landing quay wall foundations is about 70 per cent completed.

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At the northeast corner of pier "A" a pocket of very soft black mud was encountered and removed by the dredge *Lord Kitchener*. This material was unsuitable for filling, and was discharged at sea.

The dredging for the foundations of the northern 800 feet of the bulkhead passenger landing quay has been much slower than was anticipated on account of a deposit of very hard red boulder clay overlying the rock. On account of this material, it has been found necessary to carry the foundations down to a greater depth where the boulder clay is found than would have been required on a rock bottom in order to prevent the quay wall from sliding forward. The required depths are a few feet beyond the reach of the dipper dredge *Cynthia* and as drilling and blasting have had to be resorted to on account of the hardness of the boulder clay the rate of progress made by the orange peel dredge *Lord Kitchener* has necessarily been slow.

QUAY WALLS.

Bulkhead Passenger Landing Quay.—The granite filling for the rubble mound foundations for the centre portion of the bulkhead passenger landing quay is nearly completed to full height and width for its length of about 600 feet.

The extension of the north return wall of the landing quay shoreward in mass concrete west of the section to be constructed in block work is nearly completed up to 1 foot below L.W.O.S.T.

North Quay of Basin No. 1.—The diving bell commenced work on the foundations to be placed under compressed air for "stacks" of blocks Nos. 6 and 7 on June 15, 1915, and by January 21, 1916, had prepared foundations for 42 stacks or 924 lineal feet of quay wall.

Block setting commenced on September 25, 1915, and by March 31, 1916, 41 stacks of blocks or 902 lineal feet of quay wall had been set to the full height of the block work or just above high water of ordinary spring tides.

The cells of twelve of these stacks of blocks or for 262 lineal feet of wall have been filled with concrete and dredged materials in accordance with the plans. A further length of 25 stacks or 550 lineal feet of wall has the mass concrete cells filled with concrete, and the rubble filling in the other cells is being proceeded with.

North Quay Pier "A".—The diving bell commenced work on the west end of the north quay of pier "A" on January 31, 1915, and by March 31, 1916, had prepared foundations under compressed air as far as stack No. 19, or for 418 lineal feet of wall.

BLOCK MOULDING YARD.

The block moulding yard is being extended west of Pleasant street, and now contains 268 block moulding platforms with standard gauge railway track connections to each platform. The whole yard is lighted with electricity so that work may be carried on by night as well as by day.

On the reclaimed area for the terminals north of basin No. 1 and west of the passenger landing quay standard gauge tracks have also been laid down and a large block storage yard constructed.

During the season, 1,201 cellular blocks were completed, making a total to date of 1,218. Of these, 410 have been set in the quay walls and 808 are in the storage yard ready for setting.

Forty-four sets of specially constructed steel forms with a large number of spare parts and several sets of specially constructed wooden forms for curved blocks are in use.

On an average working day, ten reinforced concrete blocks each weighing about 63 tons and containing about 30 cubic yards of concrete and 3 tons of steel were made. The cement used was obtained from the factories at Belleville and Montreal, and the steel from the plants at Sydney and New Glasgow, N.S.

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During the season 34,908 cubic yards of reinforced concrete and 5,593,126 pounds of steel were used in the reinforced concrete cellular blocks.

The manufacture and setting of the cellular blocks has been found to be a simple, expeditious, and efficient process for economical quay wall construction in deep water.

FILLING QUAY SPACES AND PIER "A."

All the dredged materials, excepting the small quantity of soft mud which was found unsuitable, have been used for filling in the solid core of pier "A" and in the other quay spaces behind the quay walls and also for filling the cells of the quay walls for which rock dredgings were used.

SAND AND GRAVEL.

Early in the season, the contractors made arrangements for obtaining sand and gravel and shingle from the sea beaches near East Lawrencetown. A spur track about three-quarters of a mile long was laid from the Dartmouth and Deans branch of the Canadian Government Railways to the beaches, and loading plant and tracks installed. South of Woodside on the east side of Halifax harbour, opposite the site of the docks, another spur track and timber trestle for unloading railway cars of gravel and sand by dumping direct to scows was constructed. The length of the railway haul is about 16 miles, and the distance by scows across the harbour to the dock works is about 1½ miles.

About 70,000 cubic yards of gravel and sand of good quality have been delivered on the dock works from these beaches free from interruption on account of fog or other weather conditions.

PILE MOULDING YARD.

The making of reinforced guide and key posts for the quay walls and of the reinforced concrete piles for foundations for permanent buildings and sheds was sublet by the principal contractors to the Nova Scotia Construction Co., Ltd., who have made in their well-laid-out and equipped yards at Eastern Passage, 605 guide and key posts from 12½ inch. by 12½ inch. to 16 inch. by 16 inch. in section and from 28 feet 6 inches to 52 feet in length.

They have also made 1,000 reinforced concrete piles 16 inches by 16 inches in section and in lengths of from 40 to 55 feet.

These posts and piles are being transported from the moulding and seasoning yards at Eastern Passage to the docks by water.

In the pile moulding yard at the Eastern Passage during the season, 4,457 cubic yards of concrete and 1,276,800 pounds of steel have been used.

GRANITE QUARRY.

The granite quarries, distant from the docks about 2½ miles by water, and situated on lands acquired by the Government at Purcell's Cove for the purposes of the ocean terminals have been opened up and well equipped with plant, and they have been worked steadily throughout the year.

Some 75,000 cubic yards of granite rubble have been taken from the lower or rubble quarry and 45,000 cubic feet of granite blocks of good quality for cut stone have been quarried from the upper or cut stone quarry. The rubble is being placed in the rubble mound foundations for the deep sections of the quay walls. The blocks for cut stone will be dressed and used for the facing and the coping of the quay walls from 1 foot below I.W.O.S.T. and upward.

Appended are statements of men employed and statements of additional plant placed on the works.

JAMES MCGREGOR,

Superintending Engineer.

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Contracts Nos. 1 and 2, The Cook Construction Company, Ltd., & Wheaton Bros., Contractors. Statement of number of men employed (exclusive of office staff, superintendents, and general foremen). Average per day per month for year April 1, 1915, to March 31, 1916:—

	Contract No. 1.	Contract No. 2.	Total.
April.. . . .	120	380	500
May.. . . .	154	368	522
June.. . . .	134	387	521
July.. . . .	131	397	528
August.. . . .	129	287	416
September.. . . .	116	279	395
October.. . . .	176	219	395
November.. . . .	228	175	403
December.. . . .	130	318	348
January.. . . .	99	211	310
February.. . . .	94	209	303
March.. . . .	59	195	254

Construction work has been carried on continuously by day and night shifts all the year round.

Statement of additional plant on works March 31, 1916, over plant reported on works on March 31, 1915:—

Two traction electric "Cyclone" drills, size of bits 5½-inch.
Two standard gauge 6-wheel 65-ton locomotives, with tenders.
Thirty standard gauge 16 cubic yard side air dump cars.

Contract No. 3, Messrs. Foley Bros., Welch, Stewart & Fauquier, contractors, Statement of number of men employed (exclusive of office staff, superintendents, and general foremen), for the year April 1, 1915, to March 31, 1916:—

April.. . . .	251
May.. . . .	365
June.. . . .	490
July.. . . .	506
August.. . . .	526
September.. . . .	530
October.. . . .	563
November.. . . .	555
December.. . . .	456
January.. . . .	412
February.. . . .	356
March.. . . .	446

Construction work has been carried on continuously by day and night shifts all the year round.

Statement of additional plant on works March 31, 1916, over plant reported on works on March 31, 1915:—

1 dipper dredge, *Cynthia*.
3 hopper dump scows, 800 cubic yards capacity.
2 tugs, *Lord Roberts* and *Lord Beresford*.
1 wooden scow No. 12, 24' by 100'
1 " " No. 13, 26' by 75' (about).
1 " " No. 15, 24' by 100'
1 standard gauge locomotive crane, 150 tons (Industrial Iron Works).

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NATIONAL TRANSCONTINENTAL RAILWAY. ROAD-BED AND TRACK.

Subdivisions.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
District No. 1—				
Quebec.....	125.87	2.17	10.30	19.95
Fitzpatrick.....	118.78		8.65	11.42
Parent.....	102.54		8.15	6.97
Doucet.....	107.09		9.46	11.93
Cadorna Branch.....	5.90			0.23
Bridge to Champlain Market.....	6.48	6.48		
Total.....	466.66	8.65	36.56	50.50
District No. 2—				
O'Brien.....	112.59		6.32	0.40
Cochrane.....	129.08		11.58	15.24
Hearst.....	125.11		13.47	8.83
Grant.....	131.23		12.19	8.56
Armstrong.....	132.71		12.05	6.51
Total.....	630.72		56.61	39.54
District No. 3—				
Fort William.....	60.76		4.96	32.33
Raith.....	137.73		14.74	7.82
Graham.....	123.21		11.31	25.31
Winnipeg.....	128.96	4.80	9.74	48.05
Total.....	450.66	4.80	40.75	113.51
District No. 5—				
Moncton.....	10.76		1.41	9.37
Napodogan.....	106.63		8.18	13.00
Edmundston.....	113.06		8.83	14.08
Monk.....	123.99		10.64	12.64
Lawrence.....	100.23		8.39	3.85
Total.....	454.67		37.45	52.94

SUMMARY.

District No.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
1.....	466.66	8.65	36.56	50.50
2.....	630.72		55.61	39.54
3.....	450.66	4.80	40.75	113.51
5.....	454.67		37.45	52.94
Totals.....	2,002.71	13.45	170.37	256.49

NOTE.—Of the above the following lines are operated under lease from the Grand Trunk Pacific Railway Company:—

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Subdivision.	Table of Mileages.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
District No. 3—	Miles.	Miles.	Miles.	Miles.
Fort William.....	60.76		4.96	32.33
Raith.....	131.33		12.89	7.82
Total.....	192.09		17.85	40.15

RAILS.

A total of 2.8 miles of track were relaid with new 80-pound rail as follows:—

	Miles of Track.
Fort William subdivision.....	0.8
Raith subdivision.....	2.0
Total track miles of new 80-lb. rail laid.....	2.8

The mileage of the various weights of rail in the main tracks of through main line and branches are as follows:—

Weight of Rail.	56-lb.	67-lb.	72-lb.	75-lb.	80-lb.
	Miles.	Miles.	Miles.	Miles.	Miles.
N.T.R. west of Quebec bridge.....	3.5	1.16			1,364.74
G.T.P. Leased Lines Ft. William to Superior Jet.....			5.0	6.0	181.09
N.T.R. Moncton to Diamond Jet.....					454.67
Totals.....	3.5	1.16	5.0	6.0	2,000.50

TIE RENEWALS.

Track ties have been renewed during the year as follows:—

District.	Main Line.	Average per mile.	Sidings and Spurs.	Average per mile.
No. 1.....	51,415	110		
No. 2.....	22,865	36		
No. 3.....	124,363	276	29,593	192
No. 5.....	99,455	219	926	10
Total.....	298,098	149	30,519	71

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DITCHING.

Ditching: 27.67 miles of ditching have been completed, to provide better drainage for the road-bed, and where clay cuts are sliding and filling up the ditches.

PROTECTION OF EMBANKMENTS AND CUTTINGS.

At mileages 59 and 61, O'Brien subdivision, riprap protection has been built where the embankment was washed away on account of the water level at lake Abitibi having been raised by the Abitibi Power and Paper Company, and the cost of the work charged to the Abitibi Power and Paper Company.

ROCK CUTTINGS.

At mileage 119.7, Quebec subdivision, loose and dangerous rocks have been removed from the cuttings.

NEW TRACKS AND CHANGES IN MAIN LINE.

New Lines.—On May 1, 1915, the National Transcontinental Railway from the city of Quebec, in the province of Quebec, to Winnipeg, in the province of Manitoba, a distance of 1355.95 miles, was taken over for operation as a part of the Canadian Government Railways System, and was put in operation as such on June 1, 1915; previous to the above date that portion of the railway between Superior Junction, Ont., and Winnipeg, Man., a distance of 258.57 miles, had been operated for some time by the Grand Trunk Pacific Railway Company, and after May, 1915, the Grand Trunk Pacific Railway continued to operate this portion of the line until July 1, 1915, when the operation was taken over by the Canadian Government Railways. Previous to May 1, 1915, on the portion of the line between Quebec and Superior Junction, the contractors who had constructed the railway had been maintaining a service for some time, as follows:—

Between Quebec and Fitzpatrick, a distance of 132.35 miles.

Between Peter Brown Creek, Que., and Hearst, Ont., a distance of 278.57 miles.

The maximum gradient westbound is 0.6 foot per hundred, and eastbound 0.4 foot per hundred, all grades being compensated for curvature. The maximum curvature is 6 degrees, and with few exceptions all the bridges and culverts are of permanent construction and designed for heavy power.

Passing sidings of a standard length of 3,500 feet were built at intervals, averaging about 7 miles.

For the purpose of operation this line was divided into eleven subdivisions, as shown in the table of road-bed and track.

At each terminal point there is a brick and concrete enginehouse, coaling plant, cinder hoist, machine shops, etc., combined station and office building, and adequate trackage for the handling of traffic.

There are 190 frame-construction station buildings on concrete foundations, as follows: 180 N.T.R. design "A," 2 N.T.R. design 26 feet by 60 feet, 8 N.T.R. design "D," also a station of special design at Hervey Junction, which is used as a joint station with the Canadian Northern Railway.

On September 1, 1915, the line from Cap Rouge to Cadorna was put in operation. This line is 5.79 miles long and consists of 4.92 miles between Cap Rouge and St. Malo, which was acquired by the Government from the Canadian Northern Quebec Railway, and which was extended by the National Transcontinental Railway Commissioners in the summer of 1915, 0.87 mile to a connection with the Canadian Pacific Railway at Cadorna, 3.30 miles west of Quebec, and the National Transcontinental Railway passenger trains run into the city of Quebec to Palais

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station, under an agreement with the Canadian Pacific Railway for joint terminal facilities at Quebec. This line is laid with 56- and 67-pound rail, with a maximum gradient of 0.6 foot per hundred, and a maximum curvature of 12 degrees.

On July 1, 1915, the Grand Trunk Pacific branch, known as the Fort William branch, between the junction with the National Transcontinental Railway at Superior Junction, Ont., and Fort William, a distance of 192.09 miles, was taken over for operation by the Canadian Government Railways, under lease from the Grand Trunk Pacific Railway Company. There are terminal facilities on this line at Raith, 56.9 miles from Fort William, and at Mission on the west side of the Kaministiquia river, which provides lake shipping facilities at the port of Fort William, there being track connections with the terminal elevator of the Grand Trunk Pacific Elevator Company.

Line changes.—At a point 10.76 miles west of Moncton, a cut-off line 4,663 feet long was constructed by the Intercolonial Railway from that point to mileage 11.64 on the Moncton subdivision of the Intercolonial Railway. This cut-off line was put in service on December 12, 1915, since which date both Intercolonial and National Transcontinental Railway trains have been operated over the Transcontinental Railway from Moncton to mile 10.76, and the portion of the Intercolonial Railway between the junction of the cut-off line and mileage 2 from Moncton has been abandoned, and the rails, etc., taken up. The portion of the National Transcontinental Railway between Moncton and mile 10, used jointly by Intercolonial Railway and National Transcontinental Railway trains, is being operated as a part of district No. 2 on the Intercolonial Railway.

Inter-Switching Tracks.—The operation of the interchange tracks at mileage 7.5 Quebec subdivision, with the Canadian Pacific Railway, has been discontinued and the switches lifted, as the operation of the Cadorna branch from Cap Rouge, and the use of Quebec terminals under a joint terminal agreement with the Canadian Pacific Railway has done away with the necessity for this track.

At mileage 123.0, Quebec subdivision, the private sidings constructed for the Brown Corporation, to provide facilities at that point for interchange with the Canadian Northern Railway, if required, as the sidings of the Brown Corporation are connected to both the National Transcontinental Railway and the Canadian Northern Railway.

At Cochrane, Ont., two tracks were built to provide facilities for the transfer of business between the National Transcontinental Railway and the Temiskaming and Northern Ontario Railway.

At the west end of Cochrane yard a connecting track, 400 feet long, was built between the two main line tracks to enable the "National" train running between Toronto and Winnipeg to receive and discharge business at the Temiskaming and Northern Ontario Railway station, and pass from one railway to the other without unnecessary switching, the switch in the National Transcontinental Railway track being installed by the Canadian Government Railways and the balance of the track laid by the Temiskaming and Northern Ontario Railway.

East of the Temiskaming and Northern Ontario station at Cochrane, a connection was constructed between the main lines of the Temiskaming and Northern Ontario Railway and the National Transcontinental Railway, 650 feet long; the portion on the Temiskaming and Northern Ontario Railway, 300 feet long, was built by that railway, and the balance of 350 feet on the National Transcontinental Railway right of way was built by the Transcontinental Railway. This connection is to provide for the interchange of through freight trains and to give access from the Temiskaming and Northern Ontario main line to the National Transcontinental Railway main line, for engines bringing the "National" and other trains into Cochrane from the west.

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Interchange tracks with the Bangor and Aroostook Railway were constructed at mile 89.2, Edmundston subdivision.

BUSINESS SIDINGS, ETC.

Business sidings, loading tracks, etc., have been constructed as follows:—

District No. 1—	Feet.
St. Marc, business siding.. . . .	311
District No. 2—	
Makamik, business siding.. . . .	372
District No. 3—	
Hunter, business siding.. . . .	380
District No. 5—	
Berry's Mills, business siding.. . . .	600
Mile, 95'8, Lawrence S.D., business siding.. . . .	230
Total.. . . .	990

SUMMARY OF BUSINESS SIDINGS CONSTRUCTED.

District	Feet.
No. 1.. . . .	311
" No. 2.. . . .	372
" No. 3.. . . .	380
" No. 5.. . . .	990
Total.. . . .	2,053

PRIVATE SIDINGS.

Location.	Name of Person or Firm.	Feet.
District No. 1—		
Quebec S.D., mile 95'76.. . . .	St. Maurice Lumber Co.. . .	329
" " " 123'01.. . . .	Brown Corporation.. . .	3,415
Fitzpatrick S.D., mile 69'78.. . . .	St. Maurice Lumber Co.. . .	1,847
Parent S.D., mile 5'23.. . . .	Gatineau Industrial Co.. . .	1,170
Doucet " " 40'79.. . . .	L. Goulet.. . . .	250
" " " 83'91.. . . .	Department of Justice, Canada.. . . .	685
Total.. . . .		7,717

Location.	Name of Person or Firm.	Feet.
District No. 5—		
Monk S.D. M. 31-23.. . . .	Frank Belanger.. . . .	268
Monk S.D. M. 41-91.. . . .	Victor Abut.. . . .	350
Monk S.D. M. 45-23.. . . .	Blue River Lumber Co.. . . .	6,698
Monk S.D. M. 56-02.. . . .	Fraser Lumber Co.. . . .	1,950
Total.. . . .		9,266

SUMMARY OF PRIVATE SIDINGS CONSTRUCTED.

District No. 1.. . . .	7,717
District No. 5.. . . .	9,266
Total.. . . .	16,983

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WATER SERVICE.

District No. 1.—St. Casimir: A connection was made with the town supply to provide water for the National Transcontinental Railway station for domestic purposes.

District No. 2.—Wabikin: Owing to the high water in the river at this point, the pump to the railway water supply was moved and placed on dry ground under the tank. The high water was caused by the damming of the river by the Abitibi Power and Paper Company, and the cost of moving the pump is being charged against this company.

Grant: During the severe cold weather in the winter, trouble was experienced through the source of the supply at this point freezing up, and to provide temporary relief a 6-inch pipe-line, 1,600 feet long, was laid to a small stream, which was dammed, and the water pumped into the tank by a steam pump.

Ycliffe: The 15-horsepower Fairbanks-Morse combined gasoline engine and pump at this point was replaced with a 10-horsepower pump of the same make, and the pump removed changed to Graham on district No. 3 and installed at that point.

District No. 3.—Graham: The 15 horse-power Fairbanks-Morse combined gasoline engine and pump removed from Ycliffe was installed at Graham as an auxiliary to the 10 horse-power pump of the same make in service at that point, the 10 horse-power pump having been found too small to supply sufficient water during the heavy months of traffic.

District No. 5.—North Branch: The water supply at this point not being required, under present traffic conditions, the 15 horse-power gasoline combined engine and pump was taken from this point and installed at Newcastle, on District No. 2 of the Intercolonial railway.

Monk: A well was drilled to provide suitable drinking water for use in Monk station.

Armagh: Heavy repairs to the pipe-line of the gravity supply were made.

BUILDINGS.

Buildings, platform alterations, and additions were constructed as follows:—

District No. 1.—Cap Rouge: A standard section tool-house was moved from Sterling and erected at Cap Rouge to serve as an operator's office. A platform, 15 feet long, was built and the necessary alterations made to the building.

District No. 2.—Makamik: The station building was moved from its original location at mileage 18-33, O'Brien subdivision, to a new location at mileage 15-7.

District No. 3.—Millidge: A new pump-house was constructed to replace one destroyed by fire.

District No. 5.—Berry's Mills: The station at Lutesville was moved to Berry's Mills and a new platform constructed at that point, and a new loading platform and business siding built.

Caron Brook: A shelter station platform was provided at this point.

Blue River: The station and platform at Tarte was moved to mileage 44-24, Monk subdivision, and the name changed to Blue River.

Sully Siding: Shelter station and platform was provided.

St. Eleuthere: The station and platform at St. Eleuthere was moved to mile 59-64, Monk subdivision.

River Manie: The station and platform at Lippee was moved to mile 85-86, Monk subdivision, and the name changed to River Manie.

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FENCING.

Some 1.91 miles of standard board fence and snow fence have been erected as follows:—

District No. 1—	Miles.
Quebec S.D., portable snow fence.	1'12
Parent S.D., portable snow fence.	0'22
Total.	1'34
District No. 2—	
Hearst S.D., portable snow fence.	0'10
District No. 3—	
Winnipeg S.D., standard board fence	0'47

TERMINAL IMPROVEMENTS.

District No. 1.—Fitzpatrick: A connection was made with the stationary boiler and a steam pipe-line 250 feet long laid to the coach track for the purpose of keeping coaches standing at this point over night under steam. A water connection was also laid to this point.

Parent: A connection was made with the stationary boilers in the roundhouse, and a steam pipe-line 250 feet long was laid to the coach track, for the purpose of keeping coaches standing over night under steam.

District No. 2.—Cochrane: Steam and water pipes, 60 feet long, were laid to connect the coach track with the steam pipe in the engine-house.

A board partition was built between the machine shop and dynamo room, to protect the dynamo from dust.

Two old frame buildings were moved and placed alongside the stores building to provide increased storage.

A small building was moved and placed adjoining the repair track for the use of car repairers and eight 30-foot wheel bays were built alongside same with a narrow-gauge Lorry track. A small section tool-house was moved from the yard and placed at the west end of the Temiskaming and Northern Ontario Railway station for the use of car inspectors.

Hearst: The scale track was lined over and live rails provided on the scales.

Steam, water and sewer connections were laid across the yard, and four connections placed along the main line for the purpose of thawing out coaches on through trains, and providing facilities for the watering of same. A steam connection was also made to the coach track to provide facilities for keeping coaches standing over night under steam, and a connection was made with the station heating system so that this building could be heated from the central power plant.

A spare section tool-house was moved and placed in position for the use of car repairers, and the necessary wheel bays built.

An inside stairway was built in the station leading to the basement, the only access previously being a trap door in the office floor.

Grant.—A steam connection and drain were laid from the boilers in the engine-house across the yard about 750 feet, and three steam connections provided along the main line, for the purpose of thawing out coaches on through trains. Connection was also made with the station heating system so that this building can be heated from the central power plant.

A spare section tool-house was moved and placed in position for use of the car repairers, and the necessary wheel bays built.

Armstrong: A steam connection was laid across the yard about 1,000 feet long, and three steam connections installed along the main line for the thawing out of

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coaches on through trains. A connection was made with the station heating system so that steam could be used for the heating of the station from the central power plant.

A spare section tool-house was moved and placed in position for use of the car repairers, and the necessary wheel bays built.

District No. 3.—Graham: A connection with the stationary boiler to the engine-house was made across the yard with a steam pipe, about 750 feet long, and four steam connections installed along the main line for the purpose of thawing out coaches on through trains. A connection was also made from the station so that that building may be heated from the central power plant.

Transcona: A standard board fence, 2,495 feet long, was built along the north side of the shops to protect the property from trespassing, a gate and watchman's shelter being built opposite the midway.

District No. 5.—Monk: Trouble has been experienced in the boat of the coaling plant by water from a spring in the vicinity. During the fall of 1915 the original contractors, Roberts, Schaefer & Co., did considerable work in connection with this, which was not completed, and further work will have to be undertaken in 1916.

DAMAGE BY FLOOD.

*District No. 2.—*The approaches to the Pagwachanan River bridge, mile 76.2, Hearst subdivision, were damaged by the fall rains, and the embankments were strengthened.

DAMAGE BY FIRE.

District No. 1.—Uniacke: The section tool-house was destroyed by fire in August, 1915, and was replaced by tool-house removed from Doucet.

District No. 2.—Hearst: The enginemens' restaurant was totally destroyed by fire on March 9, 1916.

District No. 3.—Millidge: Pump house was burned on January 19, 1916.

BRIDGES AND CULVERTS.

Repairs and renewals to bridges and culverts have been made as follows:—

District No. 3.—Winnipeg S. D., Bridge 71.5: This structure is a pile bridge, 375 feet long and 30 feet high; 24 pile bents were cut off and replaced with timber bents.

Fort William S. D., Bridge 49.3: This structure is a pile bridge, 148.5 feet long and 49 feet high. The piles in this structure were renewed.

District No. 5.—Edmundston S. D., Culvert 31.0: The northwest corner of the culvert was undermined, and temporary bents were placed in same to hold the cop of the culvert until permanent repairs are made in 1916.

Napodogan S. D., Culvert 35.3: The northwest wing wall of this structure cracked and fell into the stream, and temporary crib work was built to hold the embankment until permanent repairs are made in 1916.

Edmundston S. D., Bridge 66.5: Little Salmon river. An investigation and report in connection with the substructure of the above bridge was made to cover the necessary repairs in 1916, and the tops of sixteen of the pedestals were water-proofed.

STAFF SYSTEM.

An electric train staff system was installed between Superior Junction and Graham on District 3, a distance of 6.2 miles.

C. B. BROWN,
Chief Engineer.

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PRINCE EDWARD ISLAND RAILWAY.

ROAD-BED AND TRACK.

Subdivision or Branch.	Main Line.	Passing Sidings, other Sidings, and Spurs.
	Miles.	Miles.
Charlottetown.....	116.1	16.1
Souris.....	51.7	4.8
Georgetown.....	24.4	2.9
Cape Traverse.....	11.8	1.0
Murray Harbour.....	47.8	4.8
Elmira.....	9.9	0.9
Montague.....	6.2	0.4
Vernon.....	3.7	0.4
Total.....	274.6	31.3

RAILS.

The following rails were laid during the year, replacing defective rail in track:—

	Feet.
Charlottetown subdivision.....	504
Souris subdivision	76
Murray Harbour subdivision.. .	864
Elmira subdivision.....	105
Total.....	1,549

The mileage of the various weights of rail in main tracks is as follows:—

Track miles of 50-lb. rail.....	3.6
“ 52 “	95.1
“ 56 “	40.1
“ 58 “	134.2
“ 67 “	1.6
Total.....	274.6

TIE RENEWALS.

Ties have been renewed during the year as follows:—

Subdivision.	Main Line.	Average per mile.	Sidings.	Average per mile.
Charlottetown.....	17,607	151	733	45
Souris.....	6,225	114	200	42
Georgetown.....	2,553	105	100	34
Cape Traverse.....	674	57	70	70
Murray Harbour.....	3,172	66	130	27
Elmira.....	54	6		
Montague.....	584	94		
Vernon.....	453	123		
Total.....	31,322	114	1,233	39

Thirty-one sets switch ties renewed; twenty switch stands renewed; fifteen frogs renewed.

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BALLASTING.

There were 2.2 miles of track ballasted with sand and 0.15 mile ballasted with cinders. Total, 2.35 miles.

DITCHING.

A total of 2.2 miles of ditching has been done, and old ditches cleaned out.

PROTECTION OF EMBANKMENTS AND CUTTINGS.

St. Peters—230 feet of stone filled cribwork built.
Midgell—50 feet of stone filled cribwork built.
Marie—70 feet of stone filled cribwork built.

BUSINESS SIDINGS.

The following business sidings have been constructed during the year:—

	Feet.
Fanning, Georgetown S.D., new.	377
Scotchfort, Souris S.D., extension.	200

PRIVATE SIDINGS.

The following private siding was put in:—

Location—	Subdivision.	Name of Firm.	Feet.
Richmond.	Charlottetown.	McLellan & Williams. . . .	378

WATER SERVICE.

A new tank with pump, boiler, and pump-house was erected at Emerald Junction.

BUILDINGS.

General repairs were made to all buildings requiring same, and new buildings, platforms, alterations, and additions to existing buildings were constructed as follows:—

Charlottetown Subdivision.

Charlottetown.—Steam heating installed in mechanical and freight offices.

Milton.—New section tool-house.

Emerald.—New tank and pump-house.

Summerside.—New floor put in freight shed on wharf, and a bonded goods room built.

Wellington.—New stock pen built

Richmond.—New stock pen built.

Ellerslie.—New section tool-house.

Bloomfield.—New section tool-house.

Alberton.—New rain conductors put on station.

Tignish.—New roof put on engine-house, old one having been blown off. New timber on ash pit.

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*Souris Subdivision.**Bear River.*—New section tool-house.*St. Charles.*—New standard shelter 11 by 25 feet.*Five Houses.*—A new cinder platform put down.*Marie.*—New standard shelter 11 by 25 feet.*Morell.*—New section tool-house.*Mount Stewart.*—A new double section tool-house and a coal shed for station built.*Georgetown Subdivision.**Georgetown.*—Station platform renewed.*Murray Harbour Subdivision.**Southport.*—A new cinder platform put down.*Melville.*—Station platform was renewed.*Wood Island.*—New station platform.*Murray River.*—New station platform.

FENCING.

New standard wire fence, portable and permanent snow fences have been erected as follows:—

Subdivision.	Wire Fence, New.	Portable Snow Fence.	Permanent Snow Fence.	New Gates.
		Feet.	Feet.	
Charlottetown.....	2.3	780	2,972	46
Souris.....	3.4		680	20
Georgetown.....	1.9		400	15
Murray Harbour.....				15
Cape Traverse.....	0.6	390		4
Total.....	8.2	1,080	4,052	100

In addition, repairs were made to all fences where required.

TERMINAL IMPROVEMENTS.

Charlottetown.—Plank roadway was removed and filled in permanently with clay and stone and covered with cinders.

Tignish.—590 feet of pipe fence erected around grass plot.

SURVEYS.

Re-surveys for standard track profiles have been completed for entire railway, and plans made except miles 40 to 48 of the Murray Harbour subdivision.

Right of way surveys have been made as follows:—

Subdivisions—

Charlottetown.....	Mile 0'00 to 116'1
Souris.....	" 0'00 54'7
Georgetown.....	" 0'00 24'4
Cape Traverse.....	" 0'00 11'8
Murray Harbour.....	" 0'00 47'8
Elmira.....	" 0'00 9'9
Montague.....	" 0'00 5'2
Vernon.....	" 0'00 3'7
Total.....	274'6

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Plans of above surveys have been completed as follows:—

Subdivisions—

Charlottetown..	Mile 60 to 116'1—	56'1
"	" 10	35'0—25'0
Vernon..	" 0	3'7—3'7
Total..		84'8

Surveys and plans have been made for standard station ground plans as follows:—

Charlottetown subdivision—Emerald Junction, Kensington, O'Leary.
Montague subdivision—Montague.

BRIDGES AND CULVERTS.

Charlottetown Subdivision—

Mile 6'0	Concrete pipe culvert..	24-inch diameter by 60 ft. long.	
" 13'0	" " " " " " " " " "	24 " " "	60 "
" 29'0	Cast-iron pipe culvert..	12 " " "	48 "
" 31'0	" " " " " " " " " "	12 " " "	72 "
" 34'4	" " " " " " " " " "	12 " " "	96 "
" 48'2	" " " " " " " " " "	12 " " "	60 "
" 62'6	Concrete pipe culvert..	30 " " "	32 "
" 67'3	" rail top culvert..	7 ft. x 8 ft.	40 "
" 69'0	" pipe culvert..	30-inch diameter by 18 "	84 "
" 70'0	Cast-iron pipe culvert..	12 " " "	36 "
" 88'3	" " " " " " " " " "	(double). 16 " " "	21 "
" 93'2	Concrete pipe culvert..	15 " " "	23 "
" 99'1	" " " " " " " " " "	18 " " "	18 "
" 105'9	Cast-iron pipe culvert..	16 " " "	24 "
" 106'9	" " " " " " " " " "	16 " " "	25 "
" 107'5	Concrete pipe culvert..	24 " " "	21 "
" 111'1	" " " " " " " " " "	30 " " "	

Souris Subdivision—

Mile 10'0	Cast-iron pipe culvert..	18 " " "	24 "
" 12'0	" " " " " " " " " "	18 " " "	24 "
" 13'0	Concrete pipe culvert..	24 " " "	50 "
" 13'4	" " " " " " " " " "	24 " " "	40 "
" 32'5	Cast-iron pipe culvert..	16 " " "	24 "
" 33'0	Concrete pipe culvert..	18 " " "	130 "
" 33'0	Cast-iron pipe culvert..	16 " " "	36 "
" 33'1	" " " " " " " " " "	18 " " "	24 "
" 35'0	" " " " " " " " " "	16 " " "	36 "
" 37'0	" " " " " " " " " "	24 " " "	20 "
" 37'3	" " " " " " " " " "	24 " " "	20 "
" 38'0	Bridge repaired and new stringers put in.		
" 45'0	" " " " " " " " " "		
" 45'0	Cast-iron pipe culvert, 18 inches diameter by 36 feet long.		
" 50'0	Cast-iron pipe culvert, 18 inches diameter by 120 feet long.		
" 49'6	Concrete slab substituted for stringers.		

Georgetown Subdivision—

Mile 34'1 Bridge repaired and new stringers put in.

In addition two open culverts were filled in, 5 pit cattle guards were replaced with surface guards and general repairs made to culverts, etc., where required.

DOCKS AND WHARVES.

Summerside.—Extensive repairs were made to wharf and 220 feet built new on creosoted piles and planked.

Alberton.—Three hundred feet of new retaining wall was built.

C. B. BROWN,

Chief Engineer.

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NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY—
DISTRICT No. 3.

This railway was taken over August 31, 1914, as the Cape Tormentine sub-division of the Intercolonial Railway, and forms the connecting link between the main line at Sackville and the new car ferry to be operated between Cape Tormentine, N.B., and Carleton Point, P.E.I. It has since been renamed the "Sackville sub-division."

MILEAGE.

Main Line.	36.05
Passing sidings.	0.93
Other sidings and spurs.	3.35

RAILS LAID.

A total of 9.24 miles of main track was relaid with second-hand 80-pound rails, releasing 56-pound.

The present composition of the main line is as follows:

	Miles.
80-pound.	9.24
56 "	26.81

TIE RENEWALS.

Main Line.	Average per Mile.	Sidings.	Average per Mile.
21,892	605	643	150

BALLASTING.

Ballasting of the roadbed was completed over 9.2 miles.

PRIVATE SIDINGS.

Location.	Name of Firm.	Feet.
Port Elgin.	C. S. Hickman & Co.	575

SURVEYS.

Resurveys for standard profile have been completed for the entire line, 36.05 miles.

BRIDGES AND CULVERTS.

Bridge 21-4: Timber bridge replaced with 50-foot D.P.G. on pile abutments.

Bridge 29-4: Timber bridge replaced with 6-foot rail concrete culvert.

Eight bridges were strengthened and repaired.

Nine wooden culverts were replaced with concrete pipes.

Surveys and plans have been made for the renewal of five wooden bridges, which work will be carried out in 1916-17.

C. B. BROWN,
Chief Engineer.

ST. JOHN AND QUEBEC RAILWAY.—DISTRICT No. 2.

ROADBED AND TRACK.

Subdivision.	Main Line.		Other Sidings and Spurs.	
	Miles.	Miles.	Miles.	Miles.
Centreville.	119.87	4.08	3.60	

Rails in Track.—The present composition of main line is as follows: 80-pound rails, 119.87 miles.

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Ditching.—Fifteen miles of ditches in cuts have been cleaned.

Protection to Embankments and Cuts.—During the spring of 1915 serious trouble was experienced in the clay cuttings on the first 30 miles north of Fredericton. Owing to insufficient catch-water ditches in some cases, but mainly owing to the nature of the clay, when the snow is melting and frost is coming out of the ground, it is impossible to hold the sides of the cuts on a $1\frac{1}{2}$ to 1 slope, and the clay slides down and covers the track. A large number of men were employed to keep the track open and a ditcher was engaged for a month in removing the material. Means of permanent prevention of slides are under consideration.

Private Sidings.—The following private sidings have been built:—

Subdivision.	Location	Name of Owner.	Length.	New or Extension.
Centreville.. . . .	Mile 36.70	H. Manuel.. . . .	400	New
"	" 56.60	G. G. Scott.. . . .	400	"
Total.. . . .			800 feet.	

Surveys.—Several reconnaissance surveys were made in connection with the extensions and development of this railway.

Bridge and Culvert Renewals and Turntables, Centreville Subdivision:—

Culvert 5-42: Replaced 24-inch corrugated iron pipe with 30-inch concrete pipe.

Bridge 9-9: Oromocto river, put new hoisting cable on lift spans.

Gagetown: Resurfaced centre pier and circle rail of turntable.

Summary of amounts taken out of maintenance appropriation, 1915-16, and charged to working expenses, which might have been properly charged to betterments (capital).

Intercolonial—

District No. 1.. . . .	\$ 212,153 83
" No. 2.. . . .	258,624 97
" No. 3.. . . .	289,357 65
" No. 4.. . . .	200,271 94
Prince Edward Island	37,831 00
New Brunswick and Prince Edward Island	
Railway.. . . .	18,851 93
St. John and Quebec.. . . .	1,807 09
International Railway of New Brunswick.. . . .	27,093 50
Mechanical.. . . .	133,000 00
	<hr/>
	\$1,178,991 91

National Transcontinental Railway—

District No. 1.. . . .	16,531 51
" No. 2.. . . .	13,303 70
" No. 3.. . . .	24,345 00
	<hr/>
	54,230 21
Total.. . . .	<hr/>
	\$1,233,222 12

NOTE.—Details are furnished but are not printed.

C. B. BROWN,

Chief Engineer.

REPORT OF THE SAFETY DEPARTMENT.

Monthly safety meetings have been held by the district committees at Lévis, Campbellton, Truro, and New Glasgow, by the terminal committees at Rivière-du-Loup, St. John, Halifax, and Sydney, and by the car and locomotive shop committees at Moncton. These committees consist of a chairman (who is the local officer in charge of the district, terminal, or shops) other local officers and employee representatives from all branches of the service, who, in the performance of their

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regular duties watch out for unsafe conditions and practices, which might cause injuries, rectifying what they can and reporting the others to the chairman for consideration and correction.

At these meetings the safety of the employees and the public was generally discussed by the members, and consideration given to particular matters which might cause injuries to either.

During the year the individual members and the committees as a whole have reported the correction of nearly twenty-eight hundred unsafe conditions and over eleven hundred unsafe practices, or a total of about thirty-nine hundred corrections.

The following special work was done in the shops at Moncton to insure greater protection to employees and also to safeguard the property: 37 machine gears were enclosed with netting and rail; 7 emery wheels were equipped with shields; 3 band saws were encased; 4 cut-off saws were encased; 2 rip saws were equipped with guards; 1 boring bar had guards applied; the sidewalk leading from overhead bridge was repaired; pipe on acetylene machine was changed; walk was made along shafting in the brass shop; floors were repaired in the machine shop; large doors between the erecting and machine shops were repaired; gate was put in rear of rivet furnace to keep men from passing; motor balcony railing in the blacksmith shop was repaired; steam piping in the freight car shop was repaired; draft pipes in the blacksmith shop were repaired; stack over the springmakers' fire was renewed; floor in the tender shop was repaired; floor in the boiler shop was laid of concrete; drill sockets were made for the drilling machine; danger signals were made for use in the different shops; run leading to the end of stores platform was extended; belt on machine in the R. H. machine shop was encased; piping on the air tank in the boiler shop was repaired; notices were made for main water valves and posted on valves; circuit breakers in the planing mill were made safe; a guard was put around the chimney base at the new shops; netting was placed around benches to protect men from chipping; covering on motors in the tin shop were made safe; drip from steam hammer in the frog shop was changed so that it would not drop on men shunting; pulleys on the stores elevator were repaired; gates were renewed on the stores elevator; a new guard was placed on the tube cutter in the boiler shop; grab tongs in the boiler shop were repaired and made safe; windows in the shops were extensively repaired; cranes in the shops were repaired.

Additional guards have been placed on machines at the Rivière-du-Loup shops, as well as in roundhouses and shops at other points where greater protection was found to be necessary.

During the year there were twelve employees killed, four hundred and sixty-nine injured; two passengers killed, twenty-one injured; and twenty-three all others killed and twenty-nine injured.

During the month of August, 1915, two safety committees were organized at Transcona shops; one in the locomotive department, and one in the car department. Since that time, these committees have reported the correction of one hundred and eighty-nine unsafe conditions and one hundred and sixty-eight unsafe practices, which has resulted in improved working conditions, and provided greater safety for the employees.

Suitable bulletins containing safety suggestions and information have been sent out at frequent intervals to the various terminals, shops, roundhouses, etc., for posting where they will come to the attention of all.

J. E. LONG,
Safety Engineer.

7 GEORGE V, A. 1917

REPORT OF THE MECHANICAL ACCOUNTANT.

I beg to submit the following information for the annual report for the fiscal year ended the 31st March, 1916:—

A.—Statement showing the number of locomotives and the different classes of other rolling stock owned by the Government Railways (excepting the Prince Edward Island Railway).

B.—Statement showing the mileage made and the coal, oil, grease, and waste consumed by locomotives on the Intercolonial Railway.

C.—Statement showing the number of locomotives and the different classes of other rolling stock on the Prince Edward Island Railway.

D.—Statement showing the mileage made and the coal, oil, grease, and waste consumed by locomotives on the Prince Edward Island Railway.

E.—Summary of the principal work done in the shops at Moncton, Halifax and Rivière-du-Loup for the Intercolonial Railway. (Not printed; being numerous small details.)

F.—Summary of the principal work done in the shops at Charlottetown for the Prince Edward Island Railway. (Not printed; being numerous small details.)

The following rolling stock was purchased during the year:—

On Capital Account—

- 24 locomotives (20 consolidation and 4 shunting).
- 2 sleeping cars.
- 6 first-class day coaches.
- 20 box cars, 80,000 capacity, steel frame.
- 200 platform cars, 80,000 capacity, steel underframe.
- 200 Hart-Otis steel dump cars, 100,000 capacity.
- 5 steel snow-ploughs.
- 3 steam wrecking cranes.
- 2 all steel centre ballast ploughs.
- 2 ballast unloaders (Lidgerwood).
- 1 steam shovel (Atlantic type).
- 2 rail unloaders.

On Consolidated Revenue Fund Account—

- 11 sleeping cars.
- 2 parlour cars.
- 1 dining car.
- 1 official car, "Transcona."
- 1,000 box cars, 80,000 capacity, steel frame.

On Equipment Renewals Account:—

- 8 sleeping cars.
- 10 colonist cars.
- These cars replaced 1 first-class, 15 second-class, 1 postal and 1 baggage destroyed.

The following rolling stock was built in the shops at Moncton on Capital Account:—

- 4 baggage cars.
- 2 postal cars, steel underframe, are under construction in the Moncton shops and are nearing completion.
- Locomotive No. 1036 was taken into the shops, rebuilt, put into service and added to the equipment.
- 1 55-foot flat car was built in the shops at Moncton for carrying motor boats.
- 50 standard push cars were built in the shops at Moncton.

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International branch line passenger car No. 5 was repaired in the shops at Moncton, was changed to combined mail, baggage and express, renumbered 2299, and added to the equipment.

The following cars were converted in the shops at Moncton:—

3 second-class passenger, 1 baggage, 32 box and 35 flat to wrecking cars.

37 box and 25 flat to boarding cars.

1 postal to baggage car.

12 box to flangers.

45 box to vans.

Sleeping cars "Dalhousie," "Montmorenci," and "Kennebecasis," to superintendents' cars (official).

First-class No. 99 to General Superintendent's car.

First-class car No. 170 to General Manager's car.

Parlour cars "Dufferin" and "Malagash" to café parlour cars.

2 dining to commissary cars.

1 postal and express to full postal.

Smoking-rooms were removed from 4 first-class cars and the cars were put into suburban service.

50 box cars were lined for carrying potatoes.

Sofas were remodelled in 3 sleeping cars.

Bracket lamps were changed from upright to turndown in 3 dining cars.

Folding wash basins were changed to one continuous nickeline washstand in 2 sleeping cars.

The following rolling stock was transferred to the National Transcontinental, and was charged to Consolidated Revenue Fund Account:—

74 locomotives.

9 first-class passenger cars.

2 baggage and first-class passenger cars.

13 colonist cars.

4 second-class passenger cars.

2 baggage cars.

3 official cars.

45 vans.

16 boarding cars.

28 cinder cars.

17 snow ploughs.

12 flangers.

6 wrecking outfits.

50 push cars.

Intercolonial rolling stock was used on the branch lines during the year, as follows:—

New Brunswick and Prince Edward Island Railway: 4 locomotives, 2 passenger cars, 13 freight cars.

International Railway: 2 locomotives, 3 passenger cars, 122 freight cars.

National Transcontinental Railway, east of Quebec: 16 locomotives, 8 passenger cars, 549 freight cars.

St. John and Quebec Railway: 2 locomotives, 3 passenger cars, 62 freight cars.

In addition to the ordinary repairs that were made to the locomotives in the shops at Moncton and Rivière-du-Loup, 12 were fitted with superheaters—9 at Moncton and 3 at Rivière-du-Loup.

J. J. WALKER,

Mechanical Accountant.

INTERCOLONIAL AND NATIONAL TRANSCONTINENTAL.

STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line on the 31st March, 1915, and the 31st March, 1916.

	Passenger Cars.													Freight Cars.														
	Locomotives.	Sleeping Cars.	Parlour Cars.	Dining Cars.	Colonist Cars.	1st class passenger and official cars.	2nd class passenger cars.	Postal cars.	Baggage cars.	Box baggage cars.	Air brake instruction car.	Steam motor car.	Total passenger cars.	Box cars.	Refrigerator cars.	Platform cars.	Pulpwood cars.	Oil tank cars.	Hopper cars.	Gondola cars.	20-ton coal cars.	Hart Otis steel dump cars.	Stock Cars.	Hart convertible dump cars.	Pit cars.	Vans.	Total freight cars.	
On hand, serviceable and repairing, March 31st, 1915.	409	48	8	20	55	158	55	35	71	26	1	1	508	9067	191	2733	48	54	523	4	219	276	175	300	4	135	13729	
To be replaced at March 31st, 1915.						1	14	1					16	138	7	365	4	1	117	1	157		10				4	804
Total equipment at March 31, 1915.	409	48	8	20	55	159	69	36	71	26	1	1	524	9205	198	3008	52	55	640	5	376	276	185	300	4	139	14533	
Purchased during the year on Capital Account.	24					6							8	20	20						250						470	
Purchased on Consolidation Revenue Fund Account.	11		2	1		1							15	1000													1000	
Purchased on Equipment Renewals Account to replace—see cars replaced below.		8			10								18															
Rebuilt in the shops—Loco. No. 1036.	1																											
Postal car No. 696 changed to baggage.									1																			
Sleeping cars "Dalhousie," "Montmorenci" and "Kennebecasis" changed to Superintendents' cars.		3				3				4																		
Built in the shops at Moncton on Capital Account.																												
Built in the shops at Moncton, 1-55 foot motor-boat car.																1											1	
International passenger car No. 5 repaired and renumbered "C.G.R." No. 2299.									1				1															
Converted in the shops at Moncton: to wrecking cars, second-class passenger, 1 baggage, 32 box, 35 platform; 1 boarding cars: 37 box, 25 platform; to flanger: 12 box; to vans: 45 box.							3		1				4	126		60									45	141		
Total equipment, March 31st, 1916.	434	66	10	21	65	169	96	36	75	26	1	1	566	10099	198	3239	52	55	640	5	376	526	185	300	4	184	15863	

7 GEORGE V, A. 1917

INTERCOLONIAL AND NATIONAL TRANSCONTINENTAL—Concluded.

STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line on the 31st March, 1915, and the 31st March, 1916—Concluded.

	Work Cars.																														
	Auxiliary cars.	Store supply cars.	Wintsch gas cars.	Snow ploughs, common.	Snow ploughs, wing.	Snow ploughs, steam rotary.	Snow ploughs, double track.	Snow ploughs, double end.	Flangers.	Stream cranes.	Ballast spreaders, Rogers.	Ballast trimmer.	Centre ballast ploughs.	Side ballast ploughs.	Ballast plough unloaders.	Ballast spreaders, wing.	Concrete mixers.	Sand blast machine.	Well boring car.	Ditchers.	Steam derricks.	Hand derricks.	Steam shovels.	Portable rail sawing and boring machine.	Pile drivers.	Survey and inspection cars.	Rail unloaders.	Wrecking cars.	Boarding cars.	Total work cars.	
On hand, serviceable and repairing, March 31st, 1915.	23	1	248	22	2	2	2	142	19	2	1	5	5	2	1	4	1	1	1	1	1	7	3	1	216	215	
To be replaced at March 31st, 1915.	3	3	
Total equipment at March 31st, 1915.	23	1	251	22	2	2	2	142	19	2	1	5	5	2	1	4	1	1	1	1	1	7	3	1	216	218	
Total equipment at March 31st, 1916.	15	
Total equipment at March 31st, 1915.																															
Purchased during the year on Capital Account.																															
Purchased on Consolidation Revenue Fund Account.																															
Purchased on Equipment Renewals Account to replace—see cars replaced below.																															
Rebuilt in the shops—Loco No. 1036.																															
Postal car No. 606 changed to baggage.																															
Sleeping cars "Dalhousie," "Montmorenci" and "Kenebecasis" changed to Superintendent's cars.																															
Built in the shops at Moncton on Capital Account.																															
Built in the shops at Moncton, 1-55-foot motor-boat car.																															
International passenger car No. 5 repaired and renumbered "C.G.R." No. 2299.																															
(converted in the shops at Moncton:—																															
To wrecking cars, 3 second-class passenger, 1 baggage, 32 box, 35 platform; to boarding cars: 37 box, 25 platform; to flanger, 12 box; to vans, 45 box.																															
Total equipment, March 31st, 1916.																															
23	1	251	27	2	2	2	2	154	22	3	1	7	5	4	1	4	1	1	1	1	1	7	4	1	216	..	71	62	271	32	378

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.

STATEMENT of mileage, coal, oil, grease and waste consumed by Locomotives for the year ended 31st March, 1916.

Months.	Loco- motive mileage.	Consumption.					Average Consumption per 100 miles.				
		Coal.	Valve oil.	Engine oil.	Waste. (Wool and cotton.)	Grease.	Coal.	Valve oil.	Engine oil.	Waste. (Wool and cotton.)	Grease.
1915.		Tons.	Pints.	Pints.	Lb.	Lb.	Lb.	Pints.	Pints.	Lb.	Lb.
April.....	700,525	42,434	10,813	19,325	2,399	4,877	13,569	1.54	2.76	0.34	0.71
May.....	724,517	41,493	11,854	21,971	2,746	3,525	12,829	1.64	3.02	0.38	0.67
June.....	773,980	42,825	11,314	21,518	3,097	4,266	12,394	1.46	2.79	0.40	0.55
July.....	823,686	44,926	12,706	24,689	2,935	4,721	12,217	1.54	3.00	0.36	0.57
August.....	829,003	45,197	12,807	23,102	3,277	4,909	12,212	1.54	2.79	0.40	0.59
September.	794,330	44,554	12,153	22,035	2,855	4,214	11,305	1.53	2.77	0.36	0.53
October....	838,461	48,098	13,525	22,860	2,675	5,049	12,848	1.61	2.73	0.30	0.60
November.	833,400	50,394	13,722	23,308	3,169	5,220	13,557	1.64	2.80	0.38	0.63
December.	954,183	63,037	16,476	26,161	3,034	5,522	14,798	1.73	2.74	0.32	0.58
1916.											
January....	918,456	62,672	16,060	27,399	3,241	4,876	15,285	1.75	2.98	0.35	0.53
February..	858,977	58,888	14,126	24,018	3,256	4,799	15,356	1.64	2.80	0.38	0.56
March.....	969,163	68,268	16,530	27,637	3,886	6,628	15,779	1.60	2.85	0.40	0.68
	10,018,681	612,786	162,086	284,023	36,570	58,606	13,705	1.62	2.83	0.36	0.58

J. J. WALKER,

Mechanical Accountant.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line on the 31st March, 1915, and the 31st March, 1916.

	Passenger Cars.										Freight Cars.										Work Cars.	
	Locomotives.	1st class passenger cars.	2nd class passenger cars.	Combination 2nd class and baggage cars.	Postal and smoking cars.	Combined postal and baggage cars.	Baggage cars.	Total passenger cars.	Box cars.	Refrigerator cars.	Stock cars.	Oil tank cars.	Hart convertible cars.	Coal cars.	Platform cars.	Vans.	Total freight cars.	Snow ploughs.	Flangers.	Steam shovels.	Total work cars.	
On hand, serviceable and repairing, at March 31st, 1915.....	22	19	9	5	4	3	6	46	308	3	28	1	15	11	150	3	519	10	8	1	19	
To be replaced at March 31st, 1915.....	9	4	4	2	...	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Total equipment at March 31st, 1915.....	31	23	13	7	4	4	8	59	313	3	28	1	15	12	154	4	530	11	8	1	20	
To be replaced at March 31st, 1915, as above.....	9	4	4	2	...	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Burned and condemned during the year, 1916.....	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Total condemned at March 31st, 1916.....	9	5	4	2	...	1	2	14	5	...	...	...	...	1	4	1	11	2	...	...	2
Rebuilt during the year.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
To be replaced at March 31st, 1916.....	9	5	4	2	...	1	2	14	5	...	...	...	...	1	4	1	11	2	...	...	2
Add serviceable and repairing.....	22	18	9	5	4	3	6	45	30	3	28	1	15	11	150	3	519	9	8	1	18	
Total equipment at March 31st, 1916.....	31	23	13	7	4	4	8	59	313	3	28	1	15	12	154	4	530	11	8	1	20	

J. J. WALKER,

Mechanical Accountant.

7 GEORGE V, A. 1917

PRINCE EDWARD ISLAND RAILWAY—*Concluded.*

STATEMENT of mileage, and coal, oil and waste consumed by Locomotives for the year ended 31st March, 1916.

	Loco- motive mileage.	Consumption.				Average consumption per 100 miles.			
		Coal.	Valve oil.	Engine oil.	Waste (cot- ton.)	Coal.	Valve oil.	Engine oil.	Waste (cot- ton.)
		Tons.	Pints.	Pints.	Lb.	Lb.	Pints.	Pints.	Lb.
1915.									
April.....	31,864	950	472	816	582	5,963	1.48	2.56	1.82
May.....	38,413	1,086	500	980	663	5,655	1.30	2.55	1.72
June.....	39,713	1,034	556	1,088	661	5,207	1.40	2.74	1.66
July.....	49,196	1,290	708	1,392	852	5,244	1.43	2.82	1.73
August.....	45,016	1,163	688	1,308	764	5,169	1.52	2.90	1.69
September.....	45,072	1,239	672	1,280	716	5,498	1.49	2.81	1.58
October.....	43,132	1,197	556	1,104	735	5,552	1.28	2.56	1.70
November.....	40,582	1,259	620	1,128	755	6,207	1.52	2.78	1.86
December.....	38,714	1,170	536	1,080	152	6,046	1.38	2.78	0.39
1916.									
January.....	30,961	920	452	940	694	5,946	1.46	3.03	2.24
February.....	29,661	849	400	844	572	5,728	1.34	2.84	1.92
March.....	35,406	1,143	672	1,192	554	6,456	1.89	3.36	1.53
	467,730	13,300	6,832	13,152	7,700	5,688	1.45	2.81	1.64

J. J. WALKER,
Mechanical Accountant.

SESSIONAL PAPER No. 20

REPORT OF GENERAL SOLICITOR.

CONTRACTS AND AGREEMENTS ENTERED INTO BY CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916.

No.	Date of Contract.	Entered into with	Description.
	1915		
7744	April 9.	Corporation of the town of Pictou, N.S.	Supply of water at Pictou, N.S.
7745	" 14.	Corporation of the town of Antigonish, N.S.	Supply of water at Antigonish, N.S.
7736	" 14.	Sumner Company	Installation of a shaving exhaust for the planing-mill and the cabinet shop at Moncton, N.B.
7753	May 5.	Eastern Steel Company, Limited	Manufacture and delivery of foot bridge crossing for Richmond yard, Halifax, N.S.
7754	" 5.	Eastern Steel Company, Limited	Manufacture, supply and erection of highway bridge for Fairmount avenue, North Sydney, N.S.
7760	" 5.	Town of St. Germain de Rimouski, Que.	Supply of water to the I.C.R. at Rimouski, Que.
7766	" 5.	Onesiphore Carboneau	Supply of water to the I.C.R. at L'Islet, Que.
7769	" 19.	Nova Scotia Car Works, Limited	Supply and delivery of 200 steel flat cars of 40-ton capacity.
7819	July 17.	Williams and Wilson, Limited	Construction of a coaling plant at Levis, Que.
7824	" 30.	Hamilton Bridge Works Co., Ltd.	Manufacture, erection and completion of superstructure of Scoudouc River Bridge.
7825	" 30.	G. B. Mitchell	Construction, erection and completion of a brick freight shed at Levis, Que.
7843	Aug. 7.	McLaggan, McBean & Bell	Construction of a standard No. 5 station at Humphreys, N.B.
7849	" 14.	John W. McManus Co., Ltd.	Construction and completion of a spur line of railway from a point on main line of the I.C.R. about 1.8 miles east of Bathurst, N.B., to a point at or near the Bathurst Lumber Company's mills.
7856	" 17.	J. A. Boulay	Construction, erection and completion of a freight shed at St. Apollinaire, Que.
7863	" 20.	National Steel Car Company, Ltd.	Delivery of 350 steel frame box cars.
7864	" 20.	Canadian Car & Foundry Co., Ltd.	Delivery of 650 steel frame box cars of 40-ton capacity.
7859	" 24.	Rhodes Curry Company, Ltd.	Construction, erection and completion of a No. 2 standard station at Trenton, N.S.
7862	" 27.	McLaggan, McBean and Bell	Construction, erection and completion of a station at Derby Junction, N.B.
7865	" 28.	Dominion Bridge Company, Ltd.	Manufacture, erection and completion of Grand Narrows bridge.
7869	" 28.	Rhodes Curry Company, Ltd.	Superstructure of Main street subway at Moncton, N.B.
7877	Sept. 13.	Jones Girouard Company, Ltd.	Construction of culverts, bridge superstructures, filling of certain bridges on Sydney S.D.
7866	" 15.	R. C. Sutherland	Construction of pier and renewal of abutments St. Henri bridge.
7885	" 17.	Rhodes Curry Company, Ltd.	Manufacture, erection and completion of the following bridges on the line of the I.C.R. Main Road crossing bridge, Connors crossing bridge, Keough's culvert bridge, Boiestown road bridge, Clearwater Brook bridge, McBean's bridge, Estey's Brook bridge, Manzer's Brook bridge No. 1, Manzer's Brook bridge No. 2, Leper Brook bridge.
7887	" 21.	Lynch, Peckham & Gorman	Construction of the foundation for a coaling plant at Levis, Que.
7890	" 23.	Hamilton Bridge Works Co., Ltd.	Manufacture, erection and completion of the following bridges: River Inhabitants bridge, Indian-town Brook bridge, Bartholomew river bridge, and Cross Creek bridge.
7897	" 24.	Canadian Locomotive Company, Ltd.	Fifteen consolidation type freight locomotives
7895	" 28.	Dominion Bridge Company, Limited	Manufacture, erection and completion of the following steel railway bridges, Ottawa Brook bridge, Walker's Gulch bridge, St. Henri bridge.
7896	" 28.	Canadian Bridge Company, Limited	Manufacture, erection and completion of the following steel railway bridges: Denny's River bridge, Jamesville Road bridge, Leitches Creek bridge, Ball's Creek bridge, Campbell's Brook bridge, Sydney River bridge.

7 GEORGE V, A. 1917

REPORT OF GENERAL SOLICITOR—*Concluded.*

CONTRACTS AND AGREEMENTS ENTERED INTO BY CANADIAN GOVERNMENT RAILWAYS, FISCAL
YEAR ENDING MARCH 31, 1916—*Concluded.*

No.	Date.	Entered into with	Description.
7907	Oct. 7.	George W. Jewett & Company.....	Construction of reinforced concrete culverts on Mulgrave, S.D.
7908	" 7.	John W. McManus Co., Ltd.....	Construction of a line of railway about $\frac{1}{4}$ of a mile in length from a point on the main line of the I.C.R. about 10 miles west of Moncton to a point on the mainline of the N.T.R.
7921	" 27.	R. C. Sutherland.....	Construction of substructures with concrete abutments of following bridges: Fredericton S.D. Boiestown Road bridge, Cross Creek bridge, McBean's Brook bridge, Estey's Brook bridge.
8048	Dec. 21.	Custodis Canadian Chimney Company, Ltd.....	Erection of a radial brick chimney, etc., for the power-house, I.C.R., Moncton, N.B.
1916			
8094	Feb. 7.	F. H. Hopkins & Company.,.....	Supply and delivery of one wrecking crane of 100-ton capacity complete for N.T.R.
8095	" 7.	F. H. Hopkins & Company.....	Supply and delivery of one wrecking crane of 100-ton capacity complete for N.T.R.
8171	Mar. 2.	Dominion Iron & Steel Co., Ltd.....	Supply and delivery of 12,500 gross tons of steel rails.
8317	" 25.	Canadian Allis-Chalmers, Ltd.....	Delivery of four switching locomotives.
8318	" 25.	Canadian Allis-Chalmers, Ltd.....	Delivery of six consolidation type freight locomotives.
8319	" 25.	Canadian Locomotive Company, Limited.	Supply and delivery of 15 consolidation type freight locomotives (69" drivers).
8329	" 25.	Canadian Locomotive Company, Limited.	Supply and delivery of 5 Pacific type passenger locomotives (69" drivers).
8330	" 25.	Canadian Locomotive Company, Limited.	Supply and delivery of 5 Pacific type passenger locomotives (73" drivers).

H. F. ALWARD,

*General Solicitor,**Canadian Government Railways.*

SESSIONAL PAPER No. 20

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916.

No. of Deed.	Date of Deed	Grantor.	Description.	County and Province.	Area.	Amount.
	1906					\$ cts.
*8416	Sept. 25	Eunice Smith, <i>et al.</i>	Land at Halifax, N.S.	Halifax, N.S.	2,553 sq. ft.	3,896 96
*8418	Dec. 24	Robert Miller	"	"	1-15 acres	402 50
	1910					
*8417	Jan. 13	Susan A. Veith, <i>et al.</i> , (estate George A. Veith)	"	"		
*7278	April 15	Nell A. Chevarie, <i>et al.</i>	Land in the Township of Kings	Kings Co, P.E.I.	30,726 sq. ft.	258 08
	1911				0-46 acre	240 00
*7282	Mar. 15	Hugh J. Campbell	"	"	0-74	97 50
*7283	" 15	John J. Campbell	"	"	1-26	97 50
*7702	" 21	Lawrence Young, <i>et ux.</i>	Land at Little Bras d'Or	Cape Breton, N.S.	0-30	150 00
*7704	April 5	Bridget Siron, <i>et al.</i>	"	"	0-84	200 00
*7712	" 5	Robert B. Christie, <i>et ux.</i>	"	"	0-09	150 00
*7716	" 7	Alexander Nicholson, <i>et al.</i>	Florence	"	1-60	600 00
*7280	" 13	James N. McPhee, <i>et ux.</i>	Land in Township of Kings	Kings, P.E.I.	1-01	75 00
*7714	" 14	Annie E. Johnston, <i>et mar.</i>	Land at Florence	Cape Breton, N.S.	0-01	25 00
*7700	" 15	Alice Young	"	"	1-36	300 00
*7708	" 15	Michael Chas. Jessome, <i>et ux.</i>	"	"	0-48	50 00
*7710	" 15	John McIntyre	Florence	"	0-87	280 00
*7707	" 18	Henry W. Christie, <i>et ux.</i>	Little Bras d'Or	"	1-08	717 00
*7713	" 19	Flora McDonald	Florence	"	0-19	150 00
*7715	" 19	Francis Cartwell, <i>et ux.</i>	"	"	1-11	400 00
*7703	" 20	Roderick McKay, <i>et ux.</i>	Little Bras d'Or	"	1-50	1 00
*7706	" 20	John R. McIntyre, <i>et ux.</i>	"	"	0-05	50 00
*7711	" 22	Samuel Pero	Florence	"	0-02	35 00
*7717	" 26	Maggie McIntyre, <i>et mar.</i>	"	"	0-09	100 00
*7705	" 29	County of Cape Breton	Little Bras d'Or	"	1-31	300 00
*7755	" 29	Rector, Warden and Vestry, Parish of Trinity, Sydney Mines, N.S.	"	"	6-55	1 00
*7719	May 4	Allan McDonald	"	"		
*7279	" 19	Catherine McDonald	Florence	"	0-90	500 00
*7281	" 19		Land in Township of Kings	Kings, P.E.I.	10-51	465 10
			"	"	0-92	113 00

*Too late for last year's report.

7 GEORGE V, A. 1917

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916—Continued.

No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
	1911					\$ cts.
*7277	June 15	Frederick S. McDonald.	Land in Township of Kings.	Kings, P.E.I.	0.557 acre.	1,000 00
*7701	" 23	Alice Young.	Land at Little Bras d'Or.	Cape Breton, N.S.	0.48 "	1 00
*7698	July 2	John Oram, <i>et al.</i>	"	"	0.94 "	165 00
*7286	" 14	Hugh J. Campbell.	Land in the Township of Kings.	Kings, P.E.I.	0.5 "	80 00
*7284	Sept. 11	Ada F. Boyd Willis.	"	"	3.12 "	165 00
*7699	Oct. 12	Catholic Episcopal Corporation of Antigonish.	Land at Little Bras d'Or.	Cape Breton, N.S.	2.46 "	707 00
	1912					
*7285	Mar. 21	Alfred Morrow.	Land in Township of Kings.	Kings, P.E.I.	0.19 "	150 00
*7740	May 31	Daniel R. McKay, <i>et ux.</i>	Land at Stellarton.	Pictou, N.S.	3.727 "	1,490 80
*7721	Aug. 12	William Daly, <i>et ux.</i>	" Sydney Mines.	Cape Breton, N.S.	0.007 "	180 83
*7722	" 22	Margaret McArthur.	"	"	0.062 "	100 00
*7709	Oct. 17	N.S. Steel & Coal Co., Ltd., and Eastern Trust Co.	"	"	9.97 "	2,736 80
*7718	" 17	Nova Scotia Land Co., Ltd.	" Florence.	"	2.81 "	1 00
*7720	Dec. 4	Richard, William & Eliza Cox.	" Sydney Mines.	"	0.85 "	617 50
	1913					
*7184	May 30	Mary E. Watson, <i>et al.</i>	" Middle Musquodoboit.	Halifax, N.S.	0.91 "	13.65
*7195	" 30	Howard Fulton, <i>et ux.</i>	"	"	1.09 "	89.55
*7194	" 30	Wm. Deckman, <i>et ux.</i>	Upper Musquodoboit.	"	3.04 "	91.20
*7197	" 30	Chas. McGinnigle.	"	"	2.17 "	150 00
*7198	" 30	James Holman, <i>et ux.</i>	"	"	0.05 "	1 00
*7201	" 30	Wellwood Reynolds, <i>et al.</i>	"	"	1.56 "	54 40
*7202	" 30	David Archibald, <i>et al.</i> (Trustees Presbyterian Church).	"	"	2.40 "	100 00
*7155	June 9	J. A. Gould, <i>et ux.</i>	" Elusvale.	"	4.50 "	135 00
*7186	" 9	D. W. B. Reid, <i>et al.</i>	"	"	4.10 "	280 00
*7203	" 9	Herbert Zwicker.	"	"	1.87 "	56 10
*7205	" 9	George A. Horton, <i>et ux.</i>	Upper Musquodoboit.	"	2.55 "	140 00
*8172	July 1	Anne M. Morrow.	Land in Township of Kings.	Kings, P.E.I.	0.95 "	125 50
*7175	" 1	James Bombriek, <i>et ux.</i>	Land at Little River.	Halifax, N.S.	2.19 "	98.55
*7177	" 1	John Gilbert.	" Meagher's Grant.	"	6.00 "	102 00
*7187	" 1	S. Louise Malcolm.	" Little River.	"	3.14 "	200 00
	" 4	Richard M. Roberts.	Land at Eastern Passage.	"	1.23 "	1 00
*7193	" 4	George Horne, <i>et al.</i>	" Middle Musquodoboit.	"	4.95 "	40 00
*7204	" 26	A. Cospian Day, <i>et ux.</i>	"	"	"	123 75

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Aug.	1	Frank McVarish, <i>et ux.</i>	"	Harmony Junction.	Kings, P.E.I.	18,692 sq. ft.	75 00
Aug.	2	Jos. P. Taylor	"	Middle Musquodoboit	Hallifax, N.S.	0.88 acre.	44 00
	3	Birk Dillman, <i>et ux.</i>	"	Upper Musquodoboit	"	2.50 "	250 00
Sept.	4	Henrietta I. McNab, <i>et al.</i>	"	Eastern Passage	"	2.11 "	186 20
	6	Henri Sutherland, <i>et ux.</i>	"	Middle Musquodoboit	"	5.79 "	36 50
	17	Frank A. Reynolds, <i>et al.</i>	"	"	"	0.73 "	25 00
	20	John Trider, <i>et ux.</i>	"	Eastern Passage	"	0.97 "	15 00
	24	John E. Hines, <i>et ux.</i>	"	"	"	0.25 "	40 00
	26	John E. Hines	"	"	"	0.52 "	15 00
	27	Ant S. Burse, <i>et al.</i>	"	"	"	0.26 "	60 00
Oct.	2	J. Cleary, <i>et ux.</i>	"	"	"	6.37 "	10 00
	3	Henry Horne	"	"	"	1.01 "	141 75
	3	Wm. H. Guild, <i>et ux.</i>	"	Elmsvale	"	5.67 "	132 20
	3	Henrietta I. McNab	"	Eastern Passage	"	1.61 "	88 80
	6	Peter G. Archibald, <i>et ux.</i>	"	Upper Musquodoboit	"	2.22 "	20 00
	7	Fannie Himelman	"	Eastern Passage	"	0.67 "	5 00
	7	F. Sawler, <i>et ux.</i>	"	"	"	0.12 "	20 00
	7	Donald Horne, <i>et al.</i>	"	"	"	0.76 "	109 35
	7	Margaret Booth, <i>et al.</i>	"	"	"	2.50 "	25 00
	10	Ed. J. Trider	"	"	"	1.23 "	15 00
	31	R. J. McBoyle, <i>et al.</i>	"	"	"	0.21 "	412 33
	30	Emma J. Colbourne, <i>et mar.</i>	"	Pugwash	Cumberland, N.S.	19,200 sq. ft.	10 00
Nov	11	Ed. McKenzie, <i>et ux.</i>	"	Eastern Passage	Hallifax, N.S.	0.29 acre.	45 81
	12	Edgar A. Bent, <i>et al.</i>	"	Pugwash	Cumberland, N.S.	8,120 sq. ft.	1,275 55
	12	Chas. T. DeVolve, <i>et al.</i>	"	"	"	27,805 "	62 99
	12	Geo. Cooper and E. J. Goodwill	"	"	"	4,250 "	234 35
	12	George Seaman, <i>et ux.</i>	"	"	"	6,504 "	332 19
	12	Bessie Daniel	"	"	"	16,740 "	673 89
	12	Chas. E. Bent, <i>et ux.</i>	"	"	"	12,989 "	360 78
	12	Edgar A. Bent, <i>et al.</i>	"	"	"	7,480 "	25 00
	14	Ellen E. Donaldson	"	Eastern Passage	Hallifax, N.S.	0.27 acre.	150 00
	15	J. E. Horne, <i>et al.</i>	"	"	"	1.21 "	40 00
	15	Geo. J. Horne, <i>et al.</i>	"	"	"	0.26 "	15 00
	17	Lydia Doherty, <i>et al.</i>	"	"	"	0.08 "	90 00
	17	K. McKenzie, <i>et ux.</i>	"	"	"	6.20 "	750 00
	21	Chas. R. Tupper	"	Middle Musquodoboit	"	1.78 "	25 00
	27	Samuel Hilla, <i>et al.</i>	"	West Lawrencetown	"	1.10 "	323 50
	29	The Star Mfg. Co., Ltd.	"	Land near Eastern Passage	"	2.83 "	175 00
Dec.	1	Alex Burnett, <i>et ux.</i>	"	Upper Musquodoboit	"	1.93 "	131 00
	8	Thos. Rourke, <i>et ux.</i>	"	Margat's Grant	"	6.55 "	75 00
	9	C. W. Rhind, <i>et ux.</i>	"	Little River	"	1.50 "	260 00
	10	John Dickie, <i>et ux.</i>	"	Middle Musquodoboit	"	4.66 "	
	30	John McPeckage, <i>et ux.</i>	"	"	"		
	1914						
Jan.	2	M. J. Ingraham, <i>et ux.</i>	"	North Sydney	Cape Breton, N.S.	0.32 "	1,600 00
	2	Isaiah Rittendon	"	Pirate Cove	Guysboro, N.S.	650 00	3 50
	31	John G. Bisset	"	Cole Harbour	Hallifax, N.S.	59 "	

Too late for last year's report.

7 GEORGE V, A. 1917

PROPERTY CONVEYED TO THE CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916—Continued.

No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
	1914			Halifax, N.S.		\$ cts.
*7429	Jan. 31	F. Brown, <i>et ux.</i>	Land at East Lawrencetown ..	"	0.76 acre.	76 00
*7423	Feb. 3	D. A. Hutchinson, <i>et ux.</i>	Upper Musquodoboit ..	"	1.36 "	200 00
*7422	" 12	Wm. Nangle, <i>et ux.</i>	West Lawrencetown ..	"	0.22 "	2 20
*7421	" 19	J. E. Sedgewick, <i>et ux.</i>	Middle Musquodoboit ..	"	5.10 "	500 00
*7430	" 25	R. J. Thompson, <i>et ux.</i>	Cow Bay ..	"	4.21 "	25 26
*7424	" 27	S. C. W. Tait, <i>et al.</i>	Eastern Passage ..	"	1.45 "	390 00
*7432	Mar. 18	Jno. A. McLean, <i>et ux.</i>	Meagher's Grant ..	"	3.89 "	77 80
*7425	" 19	Duncan Slade ..	Crawford's Falls ..	"	2.38 "	25 00
*7426	" 19	D. W. B. Reid, <i>et ux.</i>	All that portion of a right of way to pass and re-pass from Main Post Road, Elusvale, Musquodoboit unto Grant-or's Land ..	"		1 00
*7427	" 19	Joseph Day, <i>et ux.</i>	Land at Crawford's Falls ..	"	1.28 acres.	50 00
*7431	" 27	Charlotte Dumbreck ..	" Meagher's Grant ..	"	2.46 "	49 20
*7195	April 6	H. Fulton, <i>et al.</i>	Water diversion rights re 1.99 acres at Upper Musquodoboit ..	"		500 00
*7203½	" 6	H. Zwicker ..	Water diversion rights re 1.87 acres of land at Elusvale ..	"		25 00
*7475½	May 7	G. P. Redmond ..	Water diversion rights re 2.13 acres of land at Centre Musquodoboit ..	"		440 00
*7770	June 22	Malcolm MacMillan ..	Land at Big Pond ..	Cape Breton, N.S.	2.51 acres.	289 70
*8176	Sept. 23	Barton E. McDonald, <i>et al.</i>	Land in Township of Kings ..	Kings, P.E.I.	1.76 "	100 00
*8386	Oct. 5	Dolena C. McLean, <i>et al.</i>	Land at Leitches Creek ..	Cape Breton, N.S.	1.39 "	1,100 00
*8355	Nov. 23	Isabella M. Moore, <i>et al.</i>	" North Sydney ..	"	1.18 "	2,400 00
*8173	Dec. 5	Daniel J. McDonald, <i>et ux.</i>	Land in Township of Kings ..	Kings, P.E.I.	1.45 "	100 00
*7835	" 30	D. J. McIntosh & C. E. Hamilton ..	Land at North Sydney ..	Cape Breton, N.S.	0.92 "	1,800 00
*7985	" 31	Alex. G. Musgrave, <i>et ux.</i>	" "	"	35,200 sq. ft.	800 00
*7992	" 31	Blanche A. Moore ..	" "	"	0.38 acre.	630 00
*8349	" 31	John Allan, <i>et ux.</i>	" "	"	0.57 "	1,200 00
*8395	" 31	Wm. H. Dunlap, <i>et ux.</i>	" Leitches Creek ..	"	1.12 "	225 00
*8398	" 31	Eliza McDonald ..	" "	"	6,700 sq. ft.	115 00
	1915					
*8044	Jun. 1	Anna L. Isabella Grant, <i>et al.</i>	" North Sydney ..	"	0.32 acre.	400 00
*8361	" 2	Alex. McDonald, <i>et ux.</i>	" "	"	0.30 "	700 00
*7982	" 4	Daniel D. Ferguson, <i>et ux.</i>	" "	"	8,000 sq. ft.	450 00
*8390	" 5	Alexis Allen ..	Leitches Creek ..	"	0.77 acre.	1,055 00
*7743	" 6	Wm. H. Brown, <i>et ux.</i>	Pugwash ..	Cumberland, N.S.	2,960 sq. ft.	215 48
*8357	" 6	Sydney Salter, <i>et ux.</i>	" North Sydney ..	Cape Breton, N.S.	0.18 acre.	850 00

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*8391	"	6	Louis H. Moffatt, <i>et ux.</i>	Leitch Creek	"	1-64	2,802 00
*7991	"	9	Eliab E. Moore	North Sydney	"	0-2	500 00
*7983	"	12	Robt. W. & Annie M. Kelly	"	"	63.339 sq. ft.	825 00
*7984	"	13	Charles Green	"	"	66,750 "	2,000 00
*7986	"	14	Robt. Hayward	"	"	7,323 "	1,400 00
*8354	"	15	Thos. L. Rudderham, <i>et ux.</i>	"	"	0-16 acre	450 00
*7836	"	15	Louis A. Moore, <i>et ux.</i>	"	"	"	1,660 00
*8358	"	15	Esther Gauthro, <i>et al.</i>	"	"	"	4,800 00
*8385	"	15	Chas. R. Moore, <i>et ux.</i>	"	"	1-47 acres	10 00
*7993	"	15	Peter J. Jackson	Leitch Creek	"	0-02 "	2,165 00
*8175	"	16	Neil J. McDonald	North Sydney	"	1-17 "	125 00
*8348	"	16	Robt. Musgrave, <i>et ux.</i>	Mountain Head	"	0-57 "	2,000 00
*8392	"	23	John J. Moffatt	North Sydney	Kings, P.E.I.	0-80 "	625 00
*7837	"	25	Harriet Moore	Leitch Creek	Cape Breton, N.S.	0-46 "	4,836 00
*7990	"	25	John Redmond	North Sydney	"	42,000 sq. ft.	1,050 00
*7988	"	28	Win. F. Moffatt	"	"	0-89 acre	4,380 00
*8388	Feb.	6	Murdoch McLean, <i>et ux.</i>	Leitch Creek	"	1-16 "	1,475 00
*7989	"	9	Etta Musgrave	North Sydney	"	70,700 sq. ft.	825 00
*8360	"	11	Geo. H. Murray, <i>et ux.</i>	"	"	0-07 acre	2,000 00
*8387	"	11	Ella Maloney, <i>et al.</i>	Leitch Creek	"	1-25 "	1,650 00
*8351	"	12	M. W. Ingraham, <i>et ux.</i>	North Sydney	"	1-56 "	4,400 00
*8352	"	12	Alexander McDonald	"	"	1-93 "	550 00
*8353	"	12	Cecily A. Forbes, <i>et ux.</i>	"	"	0-02 "	450 00
*8350	"	15	Chas. A. Munn, <i>et ux.</i>	Leitch Creek	"	7,150 sq. ft.	1,550 00
*7955	"	18	James Vye	North Sydney	"	95,837 "	2,850 00
*7958	"	18	Agnes I. Bertram	Nelson	Northumberland, N.B.	0-80 acre	132 00
*7952	"	19	Peter C. Appleby	"	"	0-70 "	193 10
*7957	Mar.	2	Win. J. Shanahan	"	"	0-57 "	191 40
*7954	"	2	Edward A. Paquet	"	"	1-08 "	185 00
*7956	"	10	Amy J. Vye	New Harmony	Kings, P.E.I.	0-046 "	55 31
*8420	"	13	Amy J. Vye	Nelson	Northumberland, N.B.	3-90 "	100 43
*7953	"	13	George Lapierre	West Lawrencetown	"	0-66 "	136 95
*7946	"	16	Joseph English	"	"	0-66 "	40 00
*7950	"	23	Bishop of Chatham, N.B.	"	"	0-96 "	108 96
*8397	"	26	Chas. H. McLeod, <i>et ux.</i>	"	"	1-50 "	319 46
*7947	"	27	George F. M. Forbes	"	"	0-77 "	207 40
*7980	April	1	Win. M. Sullivan, <i>et ux.</i>	Leitch Creek	"	1-18 "	1 00
*8396	"	13	John McPetridge, <i>et al.</i>	Nelson	Cape Breton, N.S.	1-17 "	423 00
*7949	"	28	Dominion Coal Co., Ltd.	Middle Musquodoboit	Halifax, N.S.	0-30 "	100 00
*8389	"	28	Ernest Flett, <i>et ux.</i>	Leitch Creek	Cape Breton, N.S.	2-44 "	2,225 00
*8356	"	29	Louisa A. Moore, <i>et al.</i>	Nelson	Northumberland, N.B.	1-98 "	692 97
*8082	"	30	John B. Musgrave, <i>et ux.</i>	Leitch Creek	Cape Breton, N.S.	0-97 "	3,025 00
*8419	"	30	Win. E. Deckman	North Sydney	"	0-37 "	1,300 00
*8394	May	10	Jno. Vincent, <i>et ux.</i>	Upper Musquodoboit	Halifax, N.S.	0-11 "	20 00
*7948	"	13	Catherine Rudderham, <i>et al.</i>	Cole Harbour	"	7-21 "	36 15
*8359	"	14	Thos. W. Flett, <i>et al.</i>	Leitch Creek	Cape Breton, N.S.	0-50 "	250 00
*7944	"	21	Joseph Salter	Nelson	Northumberland, N.B.	6-37 "	2,612 18
	"		Sarah O. LeBlanc & Wm. A. Breaux	North Sydney	Cape Breton, N.S.	0-20 "	525 00
	"			College Bridge	Westmoreland, N.B.	2,902.5 sq. ft.	80 00

*Too late for last year's report.

7 GEORGE V, A. 1917

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH, 31, 1916—*Concluded.*

No. of Decd.	Date of Decd.	Grantor.	Description.	County and Province.	Area.	Amount.
8047	1915	J. B. Levesque.....	Land at St. Roch-des-Aulmais.....	L'Islet, P.Q.	Crossing.....	\$ cts.
7834	May 24	John Pettit, <i>et ux.</i>	" North Sydney.....	Cape Breton, N.S.	3,000 sq. ft.	25 00
7099	June 6	Richard M. Roberts.....	Upper Musquodoboit.....	Halifax, N.S.	3-14 acres.....	750 00
7996	" 10	David Archibald, <i>et ux.</i>	" "	" "	3-28 "	20 00
7998	" 18	J. Watson McCurdy.....	" "	" "	0-45 "	483 96
7994	" 22	Albert Holman, <i>et ux.</i>	" "	" "	3-48 "	355 69
7995	" 22	Daniel Millen.....	" "	" "	3-31 "	1,290 38
7821	July 8	Henri Lagueux.....	St. Romuald.....	Levis, Quebec	Crossing.....	591 21
7822	" 8	Delphis Brochu & Henri Lagueux.....	" "	" "	" "	800 00
8078	" 12	Pierre Cantin.....	" "	" "	8,195 sq. ft.	300 00
8436	" 13	R. C. Brown, <i>et ux.</i>	Woodside.....	Halifax, N.S.	0-46 acres.....	1,897 60
8379	" 26	John W. Ingraham.....	North Sydney.....	Cape Breton, N.S.	0-3282 "	525 00
7951	Aug. 3	Clarence E. Brown, <i>et ux.</i>	Nelson.....	Northumberland, N.B.	1-669 "	290 45
8049	" 9	Margaret Lynch.....	Fredericton.....	York, N.B.	4-967 "	1 00
8107	" 18	Bridget Swan.....	Little Bras d'Or.....	Cape Breton, N.S.	0-28 "	50 00
8402	" 21	Wm. D. Conrad, <i>et ux.</i>	Lawrencetown.....	Halifax, N.S.	3-14 "	327 82
7940	Sept. 1	Puis Gamon.....	North Sydney.....	Cape Breton, N.S.	6-41 "	620 79
8073	" 9	Arthur Lomieux.....	St. Romuald.....	Levis, Quebec	5,201 sq. ft.	100 00
8074	" 9	Arthur St. Hilaire.....	" "	" "	12,043 "	450 00
7902	" 10	Joseph Cariveau.....	Montmagny.....	Montmagny, Quebec	Foot path.....	75,300 00
8001	" 17	Margaret Young Wilson.....	Halifax.....	Halifax, N.S.	71,425 sq. ft.	4,850 00
8075	" 17	Margaret Young Wilson.....	" "	" "	1,750 "	2,030 00
8000	" 20	Margaret Young Wilson.....	" "	" "	1,750 "	8,300 00
8078	" 20	Samuel Young Wilson.....	" "	" "	5,536 "	35 00
7997	" 20	Ingis W. Spratt, <i>et ux.</i>	Upper Musquodoboit.....	Northumberland, N.B.	0-23 acre.....	432 66
8383	Oct. 15	Arthur B. Coughlan, <i>et ux.</i>	Nelson.....	York, N.B.	0-77 "	455 00
8077	Nov. 22	Odour Cowperthwaite.....	St. Mary's.....	Halifax, N.S.	0-70 "	99,665 50
8399	" 26	Arthur Bouthier, <i>et ux.</i>	Halifax.....	" "	" "	1 00
8400	" 29	Eva L. McLeod, <i>et mar.</i>	" "	" "	6-47 acres.....	753 32
8341	Dec. 1	Henry Goodwin, <i>et al.</i>	Middle Musquodoboit.....	" "	2-47 "	150 00
8401	" 1	Fenwick W. Kent, <i>et al.</i>	Upper Musquodoboit.....	" "	1-187 "	294 72
8413	" 1	James Robinson.....	Nelson.....	Northumberland, N.B.	3-66 "	685 00
8325	" 2	Wm. Archibald, <i>et ux.</i>	Centre Musquodoboit.....	Halifax, N.S.	5-56 "	875 00
8326	" 2	Franklin Kent, <i>et ux.</i>	Upper Musquodoboit.....	" "	1-47 "	"
8342	" 3	Clarence A. Muir, <i>et al.</i>	" "	" "	19-18 "	1,185 78
8403	" 11	Peter Kuhn, <i>et ux.</i>	Cole Harbour.....	" "	0-275 "	60 00
8108	" "	Noel McLean.....	Mill Brook.....	Cape Breton, N.S.	" "	"
8331	1916	John Ferguson, <i>et ux.</i>	" "	" "	" "	"
8322	Feb. 4	Norman Stewart, <i>et ux.</i>	Marie.....	Kings, P.E.I.	0-107 "	45 00
8323	" 8	Halifax Lumber Co., Ltd.....	Upper Musquodoboit.....	Halifax, N.S.	3-90 "	700 00
8384	" 9	Annie & Dan. A. McDonald.....	Three Fathoms Harbour.....	Inverness, N.S.	13-77 "	137 00
	Mar. 3	"	West Bay Road.....	"	3-92 "	117 60

SESSIONAL PAPER No. 20

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916—HALIFAX OCEAN TERMINALS.

No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
*8185	April 2	Geo. W. Jenkins, <i>et al</i>	Land at Halifax, N.S.	Halifax, N.S.	21,000 sq. ft.	\$ cts. 5,000 00
	1913.					
*8121	Mar. 17	John J. Quinn.	"	"	2,080	1,500 00
*8155	Mar. 20	Nicholas J. Low.	"	"	6,900	3,000 00
*8120	April 3	Samuel McAuley.	"	"	3,564	2,550 00
*8122	April 4	Albro, Langille.	"	"	2,820	3,200 00
*8118	April 12	Michael Fripps, <i>et ux.</i>	"	"	3,960	2,850 00
*8119	April 14	John E. Butler.	"	"	4,785	4,200 00
*8116	April 15	Nicholas J. Low.	"	"	5,764	4,250 00
*8117	April 15	Frederick Greenough, <i>et ux.</i>	"	"	3,944	2,850 00
*8305	April 17	Richard Giles, <i>et ux.</i>	"	"	3,000	3,150 00
*8206	April 19	Wm. N. Dunbrack.	"	"	3,000	3,250 00
*8303	April 21	W. G. Thomson, <i>et al.</i>	"	"	2,464	12,000 00
*8308	April 21	Matilda Humphries, <i>et al.</i>	"	"	3,000	3,050 00
*8306	April 24	Joseph Ingram, <i>et ux.</i>	"	"	3,100	2,970 00
*8311	April 28	Isaac Hiltz, <i>et ux.</i>	"	"	3,000	3,500 00
*8250	April 29	J. F. Chisholm.	"	"	4,905	3,600 00
*8235	May 1	Robert Miller, <i>et ux.</i>	"	"	330,000	17,000 00
*8310	May 1	Adam B. Crosby.	"	"	1,560	6,000 00
*8221	May 2	Frederick E. Hall, <i>et ux.</i>	"	"	4,905	3,500 00
*8211	May 2	Thomas B. McCartney.	"	"	1,900	3,900 00
*8211	May 5	Leo Boudreau, <i>et ux.</i>	"	"	3,550	3,725 00
*8215	May 7	Thomas Hopper.	"	"	2,453	2,750 00
*8276	May 13	T. F. Bartlow, <i>et ux.</i>	"	"	2,460	3,000 00
*8309	May 15	Vincent Pettipas.	"	"	3,770	3,250 00
*8259	May 17	Winnifred Morton, <i>et vir.</i>	"	"	2,080	3,100 00
*8238	May 19	Margaret C. Pugh.	"	"	3,960	6,150 00
*8284	May 22	Henry Romans.	"	"	6,000	5,000 00
*8307	May 22	Andrew Mitchell.	"	"	14,800	1,500 00
*8212	May 23	G. J. Burton, <i>et ux.</i>	"	"	3,000	2,970 00
*8193	May 27	Henry Koper.	"	"	2,460	3,500 00
*8164	May 28	Mary Eva Dunn, <i>et vir.</i>	"	"	2,452	2,000 00
*8204	May 29	W. H. Muir, <i>et ux.</i>	"	"	4,860	3,000 00
*8237	May	Sophia C. Crane.	"	"	4,860	6,100 00
*8257	May 29	Joseph Outerbridge, <i>et ux.</i>	"	"	6,180	7,150 00
					171,200	10,000 00

*Too late for last year's report.

7 GEORGE V, A. 1917

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916—HALIFAX OCEAN TERMINALS—Concluded.						
No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
	1913.		Land at Halifax, N. S.	Halifax, N. S.	2,760 sq. ft.	\$ cts.
*8219	June 1	Annie S. Stanford	"	"	17,680	6,000 00
*8251	June 1	Rufus C. Bayer, <i>et ux.</i>	"	"	4,047	10,000 00
*8253	June 9	Amelia A. Higgs	"	"	1,750	4,250 00
*8231	June 13	Wm. Gaul, <i>et ux.</i>	"	"	3,000	4,200 00
*8304	June 13	John D. Dunbrack	"	"	5,325	350 00
*8126	June 18	Affie M. Oxley	"	"	2,490	7,000 00
*8213	June 21	Mrs. Flora Lake, <i>et vir.</i>	"	"	3,000	3,200 00
*8207	June 24	Harry H. Mitchell	"	"	2,188	350 00
*8275	June 25	Ann Honora Cox	"	"	1,405	2,300 00
*8223	June 30	Margaret Netzel	"	"	3,128	1,800 00
*8166	July 3	Ellen T. Kelly, executrix, Denis Kelly, executor, estate of Denis Kelly	"	"	718,740	3,000 00
*8166A	July 3	Margaret Cardie	"	"	11,980	600 00
*8168	July 29	John McMillan	"	"	5,900	14,000 00
*8124	July 31	Francis Smith	"	"	19,600	9,000 00
*8125	July 31	Wm. B. Wallace, <i>et ux.</i>	"	"	3,931	1,250 00
*8184	Aug. 19	B. H. Collins, <i>et ux.</i>	"	"	16,575	4,000 00
*8200	Aug. 19	Win. A. Geizer	"	"	2,800	6,000 00
*8290	Aug. 21	Chas. J. Bulger, <i>et ux.</i>	"	"	5,232	2,800 00
*8229	Aug. 25	James Maher, <i>et ux.</i>	"	"	19,800	3,300 00
*8302	Aug. 28	Caroline Kirkwood, <i>et vir.</i>	"	"	580	6,800 00
*8288	Sept. 2	Alfred G. Cross	"	"	42,740	300 00
*8300	Sept. 2	Robert O. Mullin, <i>et ux.</i>	"	"	57,200	7,500 00
*8197	Oct. 1	J. Gordon Bennett, <i>et ux.</i>	"	"	317,000	4,000 00
*8227	Oct. 16	Clinton A. Proctor, <i>et al.</i>	"	"		15,540 00
*8199	Oct. 21		"	"		
	1914.					
*8263	Aug. 31	Eastern Trust Company, reconveyance of lot 25, Mrs. Margaret Smith	"	"	1,750	2,500 00
*8269	Nov. 11	Eastern Trust Company, reconveyance of lot 93, Mary F. Heenan, <i>et al.</i>	"	"	1,390	700 00
*8208	Nov. 11	Eastern Trust Company, reconveyance of lot 4, Sarah Rultz	"	"	2,430	3,850 00
		Lot 5, estate of J. Thomson	"	"	1,710	3,600 00
		Lots 52, 53, and 54, Bessie B. Elliott and Jas. E. Elliot	"	"	38,980	10,000 00
		Lot 39, Bessie R. Hart, <i>et vir.</i>	"	"	23,973	5,000 00
		Lot 36, Arthur D. Mitchell, <i>et ux.</i>	"	"	4,020	4,832 00
		Lot 35, Jessie A. Naylor	"	"	4,020	4,750 00

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*8216	Nov. 25	Lot 46, Mary Beatrice Corbett	66	12,060	66	9,750 00
	1915.	Lot 23, Geo. P. Thomas, <i>et ux.</i>	66	1,560	66	2,000 00
		Lot 17, Wm. Stairs, Son & Morrow, Ltd.	66	11,100	66	3,500 00
		Lot 29, Mary Finlay, <i>et al.</i>	66	2,100	66	4,200 00
		Lot 111, Elizabeth Houlahan	66	1,260	66	1,500 00
		Lot 101, Margaret McDowell	66	2,062	66	1,500 00
		Lot R29, Charlotte Parval, <i>et al.</i>	66	1,256,290	66	600 00
		Lot A20, Charles W. Anderson, <i>et al.</i>	66	669,000	66	30,000 00
		Lot A22 Kate Lawson	66	24,800	66	1,575 00
		Lot A8, Geo. E. Nichols	66	650,000	66	30,000 00
		Lot A8u, Henry Roper	66	250,220	66	1,800 00
		Lot A1, A. R. Hobrecker	66	29,000	66	2,200 00
		Lot 1649, Thos. F. Courtney	66	29,700	66	3,000 00
		Lot 137, A. E. H. Gilpin, <i>et al.</i>	66	49,520	66	3,000 00
		Lot 133, Wm. Murphy	66	12,000	66	1,050 00
		Lot 172, Catherine E. Ruggles, <i>et al.</i>	66	1,983	66	1,000 00
		Lot 141, D. M. Owen, <i>et ux.</i>	66	318,940	66	22,800 00
		Lot 150, John H. Kelly, <i>et ux.</i>	66	53,450	66	2,500 00
		Lot 155, S. M. Brockfield, Ltd.	66	10,580	66	4,000 00
		Lot 171, W. H. Owen, <i>et ux.</i>	66	14,800	66	750 00
		Thos. F. Tobin	66	59,240	66	4,200 00
			66	139,300	66	4,500 00
*8270	Mar. 23	Frederick F. Mathers	66	13,460	66	7,798 39
8205	April 22	B. H. Collins	66	1,515	66	800 00
8109	Mar. 24	Eastern Trust Company, reconveyance of lot, Frank D. Graham.	66	3,420	66	4,500 00

*Too late for last year's report.

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LEASES GRANTED BY THE CANADIAN GOVERNMENT

No.	Date of Signature.	Lessee.	Lands or rights demised.
1915.			
7734	April 7....	John Barrett.....	Land at Sussex, N.B.....
7735	" 7....	Town of Levis, P.Q.....	Right and privilege to lay and maintain a 1½-inch conduit under the right of way and across the tracks of the I.C.R. at Levis, P.Q.
7749	" 26....	J. A. Bishop, Geo. Gibson, Joseph. Bray, W. D. Ritchie, and D. C. Ritchie.	Lands at Moncton, N.B.....
7759	May 12....	The Dept. of Public Works of Canada.	Right and privilege to connect with railway's water pipe at Hampton, N.B., and draw water therefrom for the purposes of Post Office.
7799	June 1....	Harry H. Seovil and R. W. Otty Barnes, representing Hampton Tennis Club.	Land at Hampton, N.B.....
7797	" 9....	Gilroy & Stonehouse.....	Land at Oxford, N.S.....
7804	" 21....	Dominion Molasses Co.....	Right and privilege to lay and maintain sewer pipes under the tracks at Dartmouth, N.S.
7800	" 28....	N.B. Telephone Co.....	Right to cross Main street subway with wire conduit (underground) at Moncton, N.B.
7801	" 28....	Imperial Oil Co., Ltd.....	Crossing I.C.R. tracks at Londonderry, N.S., with pipe line.
7817	" 30....	William Irving.....	Land in parish of Addington, Matapedia, Restigouche county.
7807	July 2....	Ovide Michaud.....	Right and privilege to lay a ¾-inch pipe at Val Brilliant, Que.
7820	" 10....	City of St. John.....	To lay sewer pipe under I.C.R. track at St. John, N.B.
7857	" 26....	Theophile Fournier.....	Right to lay and maintain 2½-inch wooden pipe on I.C.R. property at Sayabec, P.Q., in consideration of which lessee to supply water to railway at annual charge of \$12.00 for station purposes and \$12.00 for dwelling purposes.
7858	" 20....	James Shanahan.....	Land in the parish of Nelson, N.B.....
7870	" 27....	Wallace W. Morrison.....	Land at Londonderry, N.S.....
7872	Sept. 9....	Barney's River Weighing Co.	Land at Avondale, N.S.....
7881	" 13....	Dept. Marine & Fisheries...	Right and privilege to lay a 4-inch water main across the I.C.R. right of way at Dartmouth, N.S.
7882	" 13....	Dr. M. Lunam.....	Right and privilege to lay and maintain a 1-inch iron pipe across the right of way at mileage 182-16 Moncton S.D.
7883	" 13....	Canadian Oil Companies, Limited.	Right and privilege to lay and maintain a 2½-inch pipe across the right of way at mile 184-62 Moncton S.D.
7889	" 25....	Corp. of the Town of Dartmouth.	Right and privilege to lay and maintain a 9-inch sewer pipe across right of way of the I.C.R. at Dartmouth, N.S.
7903	" 28....	Elmer Sullivan.....	Right and privilege to lay a 6-inch sewer pipe, together with a ¾-inch water pipe under the tracks of the I.C.R. at mile 34 Leonard S.D.
7915	Oct. 7....	Townsend & Squire.....	Land at Georges River, N.S.....
7913	" 7....	Maggie and Albert J. Chapman.	Land at Dorchester, N.B.....
7929	" 27....	McLellan Foundry and Machine Works, Ltd.	Land at Campbellton, N.B.....
7932	Nov. 4....	James Casey.....	Land at Shediac, N.B.....
8046	" 4....	N.B. Telephone Co.....	Right and privilege of erecting and maintaining a telephone line across the right of way and over the tracks of the I.C.R. at mileage 1-35 Campbellton S.D., and a pole on the right of way.
8052	" 4....	Edouard Ruel.....	Right and privilege to lay and maintain an 8-inch tile drain pipe across the right of way and under the tracks of the I.C.R. at mileage 11-9 Levis S.D., P.Q.
7936	" 5....	John A. Johnson.....	Land at Berry's Mills, N.B.....
7938	" 6....	Moncton Tramways, Electricity and Gas Co.	Right and privilege to lay and maintain a 2-inch malleable iron gas pipe across the right of way and under the tracks of the I.C.R. at Humphreys, N.B.

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RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1916.

Area.	Term.	Commence- ment of term.	Annual Rental.	Due each year.	First instal- ment due.
			\$ cts.		
600 sq. ft.....	During pleasure.....	April 1, 1915..	10 00	April 1.....	April 1, 1915
.....	".....	Mar. 9, 1915..	1 00	Mar. 9.....	Mar. 9, 1915
5,000 sq. ft.....	".....	May 1, 1915..	1 00	May 1.....	May 1, 1915
.....	".....	May 1, 1915..	25 00	May 1.....	May 1, 1915
.....	".....	June 1, 1915..	10 00	June 1.....	June 1, 1915
3.17 acres.....	".....	" 1, 1915..	7 50	" 1.....	" 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	April 1, 1915..	1 00	April 1.....	April 1, 1915
7,000 sq. ft.....	".....	July 1, 1915..	10 00	July 1.....	July 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	June 1, 1915..	1 00	June 1.....	June 1, 1915
.....	".....	Aug. 1, 1915..	1 00	Aug. 1.....	Aug. 1, 1915
0.182 acre.....	".....	" 1, 1915..	5 00	" 1.....	" 1, 1915
45,000 sq. ft.....	".....	July 1, 1915..	10 00	July 1.....	July 1, 1915
200 sq. ft.....	".....	Mar. 1, 1914..	1 00	Mar. 1.....	Mar. 1, 1914
.....	".....	June 1, 1915..	1 00	June 1.....	June 1, 1915
.....	".....	Aug. 1, 1915..	1 00	Aug. 1.....	Aug. 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	June 1, 1915..	1 00	June 1.....	June 1, 1915
.....	".....	Oct. 1, 1915..	1 00	Oct. 1.....	Oct. 1, 1915
0.29 acre.....	".....	July 1, 1915..	10 00	July 1.....	July 1, 1915
980.6 sq. ft.....	".....	Oct. 1, 1915..	10 00	Oct. 1.....	Oct. 1, 1915
2,370 sq. ft.....	".....	" 1, 1915..	10 00	" 1.....	" 1, 1915
0.71 acre.....	".....	July 1, 1915..	10 00	July 1.....	July 1, 1915
.....	".....	" 1, 1915..	2 00	" 1.....	" 1, 1915
.....	".....	Nov. 1, 1915..	1 00	Nov. 1.....	Nov. 1, 1915
6,020 sq. ft.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915

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LEASES GRANTED BY THE CANADIAN GOVERNMENT RAILWAYS,

No.	Date of Signature.	Lessee.	Lands or rights demised.
1915.			
7941	Nov. 20....	Charles Logan.....	Land with use of two roadways, Moncton, N.B...
7944	Dec. 2....	South River Mutual Tel. Company.	Right and privilege of erecting and maintaining telephone wires over the property and under the tracks of the I. C. R. at South River, N.S.
7978	" 9....	Town of Bathurst.....	Right and privilege to lay and maintain a 10-inch cast iron water pipe across the right of way and under the tracks of the I. C. R. at Bathurst, N.B.
7979	" 9....	N.B. Telephone Co., Ltd....	Right and privilege to lay and maintain 2 telephone wires across the right of way and under the tracks of the I. C. R. at Upper Dorchester, N.B.
7975	" 9....	N.B. Telephone Co., Ltd....	Right and privilege to lay and maintain 2 telephone wires across the right of way and under the tracks of the I. C. R. at College Bridge, N.B.
1916.			
8063	Jan. 14....	Miramichi Steam Nav. Co.	A piece of wharf property forming part of the I. C. R. property at Chatham, N.B.
8064	" 14....	Municipality of the Parish of Val Brilliant.	Right and privilege to lay and maintain 12-inch terra cotta sewer pipe under the tracks and across the right of way of the I. C. R. at Val Brilliant, P.Q.
8066	" 14....	Municipality of Amqui.....	Right and privilege to lay and maintain a 2-inch cast iron pipe across the right of way and under the tracks of the I. C. R. at mile 61.15 Campbellton S. D.
8079	" 21....	Henry Fraser.....	Land at Truro, N.S.....
8091	Feb. 1....	Leonidas Boisvert.....	Land in Township of Ashburton, county of Montmagny, Que.
8097	" 8....	N.B. Telephone Co., Ltd....	Right and privilege of stringing and maintaining wires across the right of way and over the tracks of the I. C. R. at Humphreys, N.B.
8098	" 8....	A. S. Black.....	Land at Truro, N.S.
8101	" 8....	Payzant Card Co., Ltd....	Land at Dorchester, N.B.....
8102	" 14....	Matapedia Water Supply Co.	The right to take water from the old I. C. R. reservoir at Matapedia through a 2-inch pipe. To make and maintain a 1-inch connection from the 1-inch pipe line running from the new I. C. R. reservoir to the standpipe and to lay and maintain a 4-inch cast iron pipe last mentioned from a point in a westerly direction for a distance of 450 feet to a point opposite 691.95 on the I. C. R. main line, at which point the said 4-inch pipe is to cross under the main line and siding across and on the I. C. R. right of way.
8128	" 19....	St. John Railway Co....	Right and privilege to erect and maintain two electric light wires across the right of way and over the tracks of the I. C. R. at Renforth, Kings county, N.B.
8129	" 19....	J. C. McNeil.....	Land at Iona, N. S.....
8160	" 28....	Rev. Fr. W. Sormany.....	Land at Rogersville, N.B.....
8161	" 29....	Pierre Thibeault.....	Land at Ste. Florence, Que.....
8177	Mar. 9....	Dougald McDonald.....	Land at Berry's Mills, N. B.....
8179	" 11....	Eastern Steel Company.....	Privilege to lay and maintain a 4-inch steam pipe enclosed in a 12-inch pipe, and electric power line enclosed in a conduit under the I. C. R. tracks at Trenton, N. S.
8180	" 11....	Est. Alex. E. Alexander.....	Land at Campbellton, N. B.....
8181	" 11....	Town of Bathurst.....	Right and privilege to erect and maintain 2 telephone wires and 2 electric wires across the right of way and over the tracks of the I. C. R. at mile 122.32 Moncton S. D., and 2 poles on the right of way to support the said wires.
8182	" 11....	H. W. Wentzell.....	Right and privilege to lay and maintain one 4-inch terra cotta sewer pipe across the right of way and under the tracks of the I. C. R. at Dartmouth, N.S.

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FISCAL YEAR ENDING MARCH 31, 1916—Continued.

Area.	Term.	Commence- ment of term.	Rental.	Due each year.	First instal- ment due.
			\$ cts.		
2,025 sq. ft.....	During pleasure.....	Nov. 1, 1915.	10 00	Nov. 1.....	Nov. 1, 1915
.....	".....	April 1, 1914	1 00	April 1.....	April 1, 1914
.....	".....	Nov. 1, 1915..	1 00	Nov. 1.....	Nov. 1, 1915
.....	".....	Sept. 1, 1915..	1 00	Sept. 1.....	Sept. 1, 1915
.....	".....	" 1, 1915..	1 00	" 1.....	" 1, 1915
.....	".....	Jan. 1, 1916..	100 00	Jan. 1.....	Jan. 1, 1916
.....	".....	Aug. 1, 1915..	1 00	Aug. 1.....	Aug. 1, 1915
.....	".....	Jan. 1, 1916..	1 00	Jan. 1.....	Jan. 1, 1916
72 sq. ft.....	".....	Dec. 14, 1914..	10 00	Dec. 14.....	Dec. 14, 1914
5.47 acres.....	".....	Jan. 1, 1916..	1 00	Jan. 1.....	Jan. 1, 1916
.....	".....	May 1, 1916..	1 00	May 1.....	May 1, 1916
72 sq. ft.....	".....	Dec. 14, 1914..	10 00	Dec. 14.....	Dec. 14, 1914
433 sq. ft.....	".....	Feb. 1, 1916..	10 00	Feb. 1.....	Feb. 1, 1916
.....	".....	May 1, 1915..	60 00	May 1.....	May 1, 1915
.....	".....	Mar. 1, 1916..	1 00	Mar. 1.....	Mar. 1, 1916
720 sq. ft.....	".....	Aug. 1, 1915..	10 00	Aug. 1.....	Aug. 1, 1915
0.54 acre.....	".....	Dec. 1, 1915..	10 00	Dec. 1.....	Dec. 1, 1915
480 sq. ft.....	".....	Mar. 1, 1916..	10 00	Mar. 1.....	Mar. 1, 1916
4.77 acres.....	".....	Mar. 1, 1916..	5 00	Mar. 1.....	Mar. 1, 1916
.....	".....	Mar. 1, 1916..	1 00	" 1.....	" 1, 1916
2,857 sq. ft.....	".....	" 1, 1916..	10 00	" 1.....	" 1, 1916
.....	".....	" 1, 1916..	3 00	" 1.....	" 1, 1916
.....	".....	" 1, 1916..	1 00	" 1.....	" 1, 1916

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LEASES GRANTED BY THE CANADIAN GOVERNMENT RAILWAYS,

No.	Date of Signature.	Lessee.	Lands or rights demised.
1916			
8320	Mar. 25....	Corp. of Town of Sydney...	Right and privilege to lay and maintain one 18-inch water pipe across the right of way and under the tracks of the I.C.R. at Sydney, N.S.

TRANSCONTINENTAL

	1915.		
7930	Oct. 27....	N.B. Telephone Co., Ltd...	Right and privilege to lay and maintain an underground cable under tracks and across the right of way of the N.T.R. at St. Leonards, N.B.
7981	Dec. 14....	Brown Corporation.....	Right and privilege to erect a metallic telephone circuit (94 wire miles) on the telegraph poles on the right of way of the lessor between LaTuque and Windago, N.T.R.
8036	" 23....	Transcona Shell Co.....	Frog shop and south bay of freight car shop at Transcona for the manufacture of shells.
8053	" 30....	Customs Dept. of Canada...	Land at St. Leonards, N.B.....
	1916.		
8065	Jan. 14....	Municipality of the Town of Transcona.	Land at Transcona, Man.....
8096	Feb. 8....	Pierre Blier.....	Land at Estcourt, P.Q.....
8130	" 19....	Temiskaming & Northern Ontario Ry. Commission.	Right and privilege to pay and maintain a 4-inch cast iron pipe across the right of way and under the tracks of the N.T.R. at Cochrane, Ont.

PRINCE EDWARD

	1915.		
7750	April 26....	Dept. of Public Works.....	Land at Tignish, P.E.I.....

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FISCAL YEAR ENDING MARCH 31, 1916—*Concluded.*

Area.	Term.	Commence- ment of term.	Annual Rental.	Due each Year.	First instal- ment due.
			\$ cts.		
.....	During pleasure.	Mar. 1, 1916	1 00	Mar. 1 . . .	Mar. 1, 1916

RAILWAY.

.....	During pleasure	Nov. 1, 1915..	1 00	Nov. 1	Nov. 1, 1915
.....	"	Dec. 1, 1915..	470 00	Dec. 1	Dec. 1, 1915
.....	One year.....	" 1, 1915..	6,780 00	.....	" 1, 1915
1,875 sq. ft.....	During pleasure.....	" 1, 1915 .	1 00	" 1	" 1, 1915
13.8 acres.....	"	Jan. 1, 1916..	10 00	Jan. 1	Jan. 1, 1916
2.2 acres.....	"	Sept. 1, 1915..	10 00	Sept. 1	Sept. 1, 1915
.....	"	" 18, 1915..	1 00	" 18	" 18, 1915

ISLAND RAILWAY.

.....	During pleasure.....	May 1, 1914..	1 00	May 1	May 1, 1914
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H. F. ALWARD,
General Solicitor Canadian Government Railways.

STATEMENTS OF THE COMPTROLLER AND TREASURER.
No. 1.—INTERCOLONIAL RAILWAY—Capital Account, Year ended March 31, 1916.

1915	DR.	\$ cts.	\$ cts.	1915	Cr.	\$ cts.
Mar. 31	To Cost of Intercolonial Railway to date.		108,123,294 84	Mar. 31	By Dominion of Canada	108,123,294 84
	Improve triple valve air brakes	3,400 00				
	Additional facilities, Amherst	14,462 08				
	Anti-creeper and tie plates	20,927 28				
	Strengthen bridges	700,000 00				
	Division of line and branch to wharf, Chatham	523 94				
	Double tracking, Chaudiere Junction to St. Romuald	29,401 06				
	Division of line between Nelson and Derby Junction	4,061 00				
	Division of line between North Sydney and Leitch Creek	59,990 29				
	Increase accommodation at Fredericton	259 39				
	General protection of highways	30,000 00				
	Docks and wharves at Halifax	3,162,304 82				
	New terminal facilities, Halifax					
	Increase accommodation and provide machinery, Halifax	3,496 42				
	Willow Park sewer, Halifax	52 00				
	Subway and facilities, Hampton	505 00				
	Installation of block system in connection with operation	6,600 90				
	Installation of telephone system in connection with operation	9,283 02				
	Improvements at Levis	71,715 71				
	Locomotive and car shops with equipment, Moncton	81,467 97				
	Elimination of level crossings and grades, Moncton	83,657 02				
	Installation of roofing, Moncton	3,656 87				
	Provide new car ferry and dock for same, Mulgrave	343,850 16				
	Original construction	600 00				
	Permanent wiring of enginehouses	6,400 92				
	Permanent farm crossings and culverts	3,135 51				
	Increased facilities at Divisional points—power plants	19,965 61				
	Pugwash spur line—Pugwash Harbour	413 60				
	Raising grade, Memramcook to Sackville	3,500 00				
	Rolling stock	2,500,000 00				
	Safety appliances for equipment	24,000 00				
	Standard track signs	313 29				

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Standard clocks for divisional points.....	2,151 00			
Increase accommodation at Mont Joli.....	15,998 57			
Spur line to Courtenay Bay, St. John.....	1,643 83			
Surveys and inspections.....	68,753 76			
Improvements at Sussex.....	928 68			
Sydney Mines diversion.....	4,745 56			
Tile drainage in wet cuts.....	2,710 06			
Increase accommodations and facilities along the line.....	102,000 00			
Increased facilities at Trenton.....	11,883 16			
Increase water supply.....	7,955 82			
Towards construction of railway, Dartmouth to Deans.....	330,360 13			
Bathurst spur line.....	62,400 00			
Branch line, Sunny Brae to Mulgrave.....	21,209 18			
New coaling plant, Lewis.....	75,000 00			
(Exchequer Court Award) Cape Breton Railway.....	795 10			
	7,646,538 71			
Cu.				
By increased accommodation at Fredericton.....	3,273 31			
		1906 Mar. 31	7,643,265 40	By Dominion of Canada
			115,766,560 24	

E. & O. E., MONCTON, N.B.

S. L. SHANNON,

Comptroller and Treasurer.

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No. 2.—INTERCOLONIAL RAILWAY—Revenue Account, Year ended March 31, 1916.

Working Expenses.	\$	cts.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures...	2,279,778	20			Freight earnings.....	9,200,339	21
Add: Part of earnings for year transferred to Rail Renewal Account and debited to this account..... \$150,000					Passenger earnings....	4,010,879	58
Part of earnings for year transferred to fire renewal Account and debited to this account..... \$60,000	210,000	00	2,489,778	20	Mail and express earnings.....	781,452	30
					Miscellaneous earnings	76,120	32
Maintenance of equipment.....	2,067,679	33					
Add: Part of earnings for year transferred to equipment Renewal Account and debited to this account.....	300,000	00	2,367,679	33			
Traffic expenses.....			256,871	81			
Transportation—rail line.....			6,930,096	31			
Transportation, water line.....			50,619	83			
Miscellaneous operations.....			152,058	44			
General expenses.....			304,391	92			
*Balance.....			1,517,295	57			
			14,068,791	41		14,068,791	41

*This balance of \$1,517,295.57 represents the surplus earnings for the year ended March 31st, 1916, less \$1,400 expended by the Department of Railways and Canals on account of gratuities. The net surplus of \$1,515,895.57 has been taken for the purpose of Betterments, as detailed in Statement No. 10. This surplus does not include the amount of \$510,000 which has been charged in the ordinary way to Working Expenses, and credited to Renewal Accounts.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

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No. 3.—INTERCOLONIAL RAILWAY—Maintenance of Ways and Structures, Year ended March 31, 1916.

	\$	cts.
No. 201. Superintendence.....	111,023	93
" 202. Roadway maintenance.....	228,956	38
" 206. Tunnels and subways.....	49	21
" 208. Bridges, trestles and culverts.....	151,022	88
" 212. Ties.....	333,157	96
" 214. Rails.....	245,377	91
" 216. Other track material.....	155,713	17
" 218. Ballast.....	88,289	90
" 220. Track laying and surfacing.....	586,357	25
" 221. Right of way fences.....	52,119	55
" 223. Snow and sand fences and snowsheds.....	378	81
" 225. Crossings and signs.....	25,323	39
" 227. Station and office buildings.....	137,104	91
" 229. Roadway buildings.....	9,301	87
" 231. Water stations.....	12,876	31
" 233. Fuel stations.....	5,831	71
" 235. Shops and enginehouses.....	68,782	59
" 237. Grain elevators.....	869	74
" 239. Storage warehouses.....	703	84
" 241. Wharves and docks.....	41,172	31
" 243. Coal and ore wharves.....	9	80
" 245. Gas producing plants.....	463	47
" 247. Telegraph and telephone lines.....	4,758	82
" 249. Signals and interlockers.....	13,189	12
" 257. Power transmission system.....	912	17
" 265. Miscellaneous structures.....	2,655	86
" 267. Paving.....	424	53
" 269. Roadway machines.....	4,029	45
" 271. Small tools and supplies.....	14,190	79
" 272. Removing snow, ice and sand.....	139,528	75
" 274. Injuries to persons.....	1,816	87
" 276. Stationery and printing.....	9,260	19
" 277. Other expenses.....	1,057	54
" 278. Maintaining joint tracks, yards and other facilities. Dr.....	55,182	91
	Cr.	
" 279. Maintaining joint tracks and other facilities. Cr.....	2,499,894	09
		10,115 89
		2,489,778 20

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E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

No. 4.—INTERCOLONIAL RAILWAY—Maintenance of Equipment, Year ended
March 31, 1916.

	\$	cts.
No. 301. Superintendence.....	78,484	49
" 302. Shop machinery.....	68,093	47
" 304. Power plant machinery.....	10,498	43
" 308. Steam locomotives, repairs.....	666,163	54
" 308a. Steam locomotives—renewals.....	133,333	34
" 314. Freight train cars—repairs.....	847,353	24
" 314a. Freight train cars—renewals.....	100,000	00
" 317. Passenger train cars—repairs.....	359,602	26
" 317a. Passenger train cars—renewals.....	66,666	66
" 320. Motor equipment of cars—repairs.....	357	30
" 323. Floating equipment—repairs.....	5,246	53
" 326. Work equipment—repairs.....	10,927	61
" 332. Injuries to persons.....	755	22
" 334. Stationery and printing.....	10,187	40
" 335. Other expenses.....	15	17
" 336. Maintaining joint equipment at terminals. Dr.....	9,994	67
	2,367,679	33

S. L. SHANNON,

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E. & O. E., MONCTON, N.B.

No. 5.—INTERCOLONIAL RAILWAY—Traffic Expenses, Year ended March 31, 1916.

	\$	cts.
No. 351. Superintendence.....	58,776	08
" 352. Outside agencies.....	119,400	97
" 353. Advertising.....	43,273	42
" 354. Traffic associations.....	4,046	78
" 357. Insurance.....	2	24
" 358. Stationery and printing.....	30,869	84
" 359. Other expenses.....	502	48
	256,871	81

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No. 6.—INTERCOLONIAL RAILWAY—Transportation, Rail Line, Year ended
March 31, 1916.

	\$	cts.
No. 371. Superintendence.....	74,835	12
" 372. Despatching trains.....	136,355	38
" 373. Station employees.....	936,843	42
" 374. Weighing inspections and demurrage bureaus.....	1,677	20
" 376. Station supplies and expenses.....	117,891	70
" 377. Yardmasters and yard clerks.....	51,202	00
" 378. Yard conductors and brakemen.....	249,347	88
" 379. Yard switch and signal tenders.....	15,792	12
" 380. Yard enginemen.....	149,717	09
" 382. Fuel for yard locomotives.....	235,739	71
" 385. Water for yard locomotives.....	8,541	31
" 386. Lubricants for yard locomotives.....	3,275	33
" 387. Other supplies for yard locomotives.....	2,773	52
" 388. Enginehouse expenses—yard.....	47,633	10
" 389. Yard supplies and expenses.....	21,079	85
" 390. Operating joint yards and terminals. Dr.....	185,805	80
" 392. Train enginemen.....	738,338	81
" 394. Fuel for train locomotives.....	1,990,319	22
" 397. Water for train locomotives.....	65,956	22
" 398. Lubricants for train locomotives.....	31,851	28
" 399. Other supplies for train locomotives.....	21,268	68
" 400. Enginehouse expenses—train.....	304,928	71
" 401. Trainmen.....	944,362	21
" 402. Train supplies and expenses.....	234,038	49
" 403. Operating sleeping cars.....	60,283	22
" 404. Signal and interlocker operation.....	7,560	24
" 405. Crossing protection.....	18,452	32
" 406. Drawbridge operation.....	3,096	49
" 407. Telegraph and telephone operation.....	12,242	47
" 408. Operating floating equipment.....	66,336	97
" 410. Stationery and printing.....	75,639	15
" 411. Other expenses.....	10,557	77
" 412. Operating joint tracks and facilities. Dr.....	17,870	89
" 414. Insurance.....	6	79
" 415. Clearing wrecks.....	21,559	07
" 416. Damage to property.....	12,790	60
" 417. Damage to live stock on right of way.....	7,070	00
" 418. Loss and damage—freight.....	111,731	24
" 419. Loss and damage—baggage.....	495	83
" 420. Injuries to persons.....	13,875	18
	7,009,142	38
Cr.		
" 391. Operating joint yards and terminals. Cr.....	79,046	07
	6,930,096	31

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E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

No. 7.—INTERCOLONIAL RAILWAY—Transportation, Water Line, Year ended
March 31, 1916.

	\$ cts.
No. 431. Operation of vessels.....	50,619 83

S. L. SHANNON,

Comptroller and Treasurer.

No. 8.—INTERCOLONIAL RAILWAY—Miscellaneous Operations, Year ended March 31,
1916.

	\$ cts.
No. 441. Dining and buffet service.....	136,670 50
" 442. Hotels and restaurants.....	9,349 60
" 443. Grain elevators.....	6,038 34
	152,058 44

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Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

No. 9.—INTERCOLONIAL RAILWAY—General Expenses, Year ended March 31, 1916.

	\$	cts.
No. 451. Salaries and expenses of general officers.....	29,126	28
" 452. Salaries and expenses of clerks and attendants.....	116,459	04
" 453. General office supplies and expenses.....	5,444	50
" 454. Law expenses.....	17,088	31
" 455. Insurance.....	10	83
" 456. Relief department expenses.....	9,394	91
" 457. Pensions.....	93,641	56
" 458. Stationery and printing.....	23,178	07
" 460. Other expenses.....	10,048	42
	304,391	92

S. L. SHANNON,

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E. & O. E., MONCTON, N.B.

No. 10.—INTERCOLONIAL RAILWAY.—Improvements and Betterments.—Year ended March 31, 1916.

	\$	cts.
Maintenance of way and structures—		
No. 214. Rails.....	152,000	00
" 216. Other track material.....	15,200	00
" 220. Track laying and surfacing.....	22,800	00
" 227. Stations and office buildings.....	100,000	00
Maintenance of equipment—		
" 308a. Steam locomotives—renewals.....	544,842	47
" 314a. Freight train cars—renewals.....	408,631	86
" 317a. Passenger train cars—renewals.....	272,421	24
	1,515,895	57

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
To Cash.....		0 02			By Dominion of Canada.....	975,039	68
General stores.....	1,755	994 47			Intercolonial and Prince Edward Island Rail- ways Employees Provident Fund.....	348,502	74
Station agents.....	1,373	759 13			Fire Renewal Account.....	247,943	21
Receiver general—Provident Fund account.....	1,026	319 34			Equipment Renewal Account.....	3,064,700	62
Receiver general—unclaimed wages account.....	3,273	81			Rail Renewal Account.....	400,000	00
Auditors suspense account.....	155,766	84			Unclaimed Wages Account.....	3,265	41
Cash in transit account.....	13,117	13					
Commissary stock.....	22,881	47			By Individuals and Companies Ledger—		
Commissary stock—Moncton restaurant.....	274	09			Amherst Malleable Iron Co.....	40	42
Commissary stock—Newcastle restaurant.....	284	54			John Abrams Sons.....	11	00
Unclaimed freight.....	2,671	44			P. G. Archibald.....	15	00
Loss and damage freight—suspense.....	11,159	60			Beersville Railway and Coal Company.....	216	20
Rail Loan Account.....	77,333	66			L. S. Brown.....	0	50
Freight in Transit Account.....	29,411	59			Brown Corporation.....	2,732	46
Expenditure for road and equipment—suspense—					Brandram-Henderson, Ltd.....	203	29
Pier No. 2, Halifax.....	6,346	88			J. L. Black and Sons.....	15	00
			4,078,613	91	British-Canadian Co-operative Society.....	237	75
To Individuals and Companies Ledger—					Cumberland Railway and Coal Co.....	149	00
Alabama and Vicksburg Railway.....		2 66			Chatham Railway.....	0	07
Atlantic Coast Line.....		72 95			Canadian Oil Companies.....	72	35
Armour Car Lines.....		6 38			Cavicechi & Pagano.....	2	83
H. & A. Allan.....		0 40			Coldbrook Realty and Development Company.....	827	12
Aulac Station.....		16 76			Coldbrook Excelsior Works.....	238	76
Atlanta, Birmingham and Atlantic Railway.....		1 60			John H. Crandall.....	15	00
American Refrigerator-Transit Company.....		64 72			Dubs and Company.....	98	63
Atchison, Topeka & Santa Fe Railway.....		211 22			Dominion Express Company.....	2	01
Ann Arbor R.R.....		40 89			W. H. Duffy.....	15	00
Alabama Great Southern Ry.....		2 32			Dominion Molasses Company.....	288	85
Steamship <i>Amelia</i>		0 70			Davie Shipbuilding and Repairing Company, Ltd.....	3	01
Atlanta & West Point Ry.....		1 66			W. R. Devenish.....	8	60
Alabama, Tennessee & Northern Ry.....		1 21			Elmsdale Company.....	1,190	18
Auld Brothers.....		76 76			Electric Boat Co.....	15	00
Sir W. G. Armstrong, Whitworth & Co.....		2,416	89		J. Fenderson & Co.....	44	38
American Maize Products Co.....		0 67			T. E. Fernald & Co.....	223	50
Boston & Maine R.R.....		1,139	51		Finch, Prunty & Co.....	6,077	10
Baltimore & Ohio Ry.....		542	79		Foley Bros., Welch, Stewart & Fauquier.....	49	85
Boston & Albany Ry.....		68	80		G. B. Fenwick.....	15	00
Bosdale Station.....		45	65		H. A. Frank.....	188	12
Pancor & Aroostook Ry.....		19	94		Fraser & Neave, Ltd.....	15	00
Puffalo, Rochester & Pittsburg Ry.....		53	09		J. M. Fulton.....	15	00
Bessemer & Lake Erie Ry.....		26	17		Grand Lake Lumber Co.....	383	00
Ovide Brouillard.....		92	06		Galema Signal Oil Co.....	74	77
Barthurst Lumber Co.....		6 68			H. J. Garson & Co.....	256	71
Belt Ry. Co. of Chicago.....		2 91					
John Breakay Lumber Co.....		406	99				

5,039,451 66

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Battye Brick & Stone Co.	29 50	Luther Goodspeed & Son	207 44
Dan. Brown Steamship Co.	125 70	Amor Gorton	161 79
Samuel Baker	19 83	Gannon & Weir	370 68
D. J. Buckley	8 08	Philippe Gendron	15 00
Burrett Manufacturing Co.	22 68	Hillis & Sons	583 79
A. P. Boisseau	30 50	Charles & Davidson Hill	359 81
Canquet Ry.	13, 436 20	T. A. Hurley	108 09
Canadian Express Co.	76 50	Howard W. Holmes	264 06
Cape Breton Ry.	2, 701 26	Jos. Joseph & Bros Co.	254 51
Canadian Pacific Railway—General	62, 689 21	LeB. D. Lockhart	97 39
Charlottetown Steam Navigation Co.	1 04	W. S. Loggie & Co.	98 82
Canadian Pacific Railway—New Brunswick Division	62, 145 51	La Cie Industrielle de Rimouski	222 92
Central Vermont Ry.	252 91	Peter Lyall & Son Construction Co.	432 93
Coal & Coke Ry.	3 90	Wm. H. Miller	72 35
Canada Iron Corporation	1, 473 78	Miramichi Lumber Co.	136 67
Canadian Northern Ry.	3, 989 25	R. W. Mayer	235 76
Cincinnati, Hamilton & Dayton Ry.	65 13	F. M. Murray	158 27
Cleveland, Cincinnati, Chicago & St. Louis Ry.	539 83	McLean, Holt & Co.	10 23
Canada Atlantic & Plant S.S. Line	42 04	D. H. McKay	94 55
Chicago, Milwaukee & St. Paul Ry.	129 34	W. A. McKay & Co.	138 00
Cincinnati Northern Ry.	1 55	C. L. Osborne	227 95
Chicago, St. Paul, Minneapolis & Omaha Ry.	41 33	Jos. Ouellet	15 00
Chicago & North Western Ry.	387 51	David Porter	137 18
G. S. Campbell & Co.	21 25	Jos. Pender & Co.	15 00
Chicago & Alton Ry.	161 01	Princetown Farms Co.	15 00
Cincinnati, New Orleans & Texas Pacific Ry.	64 02	Quebec Construction Co.	51 44
Chicago, Rock Island & Gulf Ry.	15 19	F. J. Rafferty	15 00
Chicago, Burlington & Quincy Ry.	43 75	Savoie & Co.	387 62
Central R.R. of New Jersey	28 24	Thos. Samson	15 00
Chesapeake & Ohio Ry.	63 78	Chas. P. Stephen	78 50
Cudahy Refrigerator Line	3 81	Susman & Cohen	2 00
Colorado & Southern Ry.	1 13	A. A. Sutherland	15 00
Chicago & Eastern Illinois Ry.	15 88	Rev. W. E. Sormany	15 00
Canadian Locomotive Co.	17 37	Hartley G. Steeves	15 00
Chicago, New York & Boston Refrigerator Co.	1 53	Town of New Glasgow	80 00
Chicago, Indianapolis & Louisville Ry.	29 71	W. L. Tuttle	15 00
Chicago, Cincinnati & Louisville Ry.	1 26	G. A. Warman	155 00
Central New England Ry.	4 79	By Individuals and Companies Suspense Ledger—	19, 103 21
Colchester Coal & Ry. Co.	369 35	Dominion Atlantic Railway	5 32
Chicago, Rock Island & Pacific Ry.	104 65	New Brunswick & Prince Edward Island Ry.	255 08
Chicago Great Western Ry.	96 73	Prince Edward Island Ry.	90 13
Chicago, Peoria & St. Louis Ry.	14 61	St. John & Quebec Ry.	194 45
Copper Crown Ry.	45 13	By Traffic Ledger—	544 98
Central of Georgia Ry.	2 63	Boston & Maine R.R.	3, 196 38
Frank A. Cutting Co.	9 28	Boston & Albany Ry.	20 20
Canadian Westinghouse Co.	15 00	Carried forward	3, 216 58
Customs Department	154, 668 56		5, 059, 069 85
Carried forward	4, 078, 613 91		

No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916—Continued.

Dr.	\$ cts.	\$ cts.	Cr.	\$ cts.	\$ cts.
Brought forward.....	390,293 96	4,078,613 91	Brought forward.....		5,081,661 75
To					
International and Great Northern Ry.....	16 98				
International Harvester Co.....	5 84				
International Railway of New Brunswick.....	79 20				
Illinois Southern Ry.....	1 53				
Jonesboro, Lake City & Eastern Ry.....	14 18				
G. W. Jewett & Co.....	529 24				
Kent Northern Ry.....	7,636 77				
Kanawha & Michigan Ry.....	26 14				
Kansas City Southern Ry.....	20 30				
Keith Tank Line.....	23 95				
Kirk & Cook.....	14 32				
Lotbinière & Megantic Ry.....	24 66				
Londonderry Iron and Mining Co.....	21,314 12				
Lehigh Valley Ry.....	455 82				
Louisville & Nashville Ry.....	140 39				
Lake Shore & Michigan Southern Ry.....	0 51				
Lake Erie & Western Ry.....	27 97				
R. S. Low.....	96 10				
Lehigh & New England Ry.....	2 96				
Lotbinière Lumber Co.....	3 25				
Louisiana & Arkansas Ry.....	7 06				
A. & R. Loggie.....	12 92				
Litchfield & Madison Ry.....	1 05				
Louisville, Henderson & St. Louis Ry.....	0 42				
Aquila Lajole, <i>et al.</i>	27 30				
Lake Erie, Franklin & Clarion Ry.....	0 03				
Louisville & Wadley Ry.....	0 24				
Lynn, Brennan & Co.....	212 65				
Joseph Laforce.....	148 75				
Moncton & Buctouche Ry.....	19,228 76				
Michigan Central Ry.....	411 28				
Maine Central Ry.....	18 19				
John Murphy.....	0 25				
Montmagny Light & Pulp Co.....	756 09				
Thomas Malcolm.....	4,749 75				
Missouri Pacific Ry.....	316 43				
Minneapolis, St. Paul & S. S. Marie Ry.....	87 35				
Missouri, Kansas & Texas Ry.....	72 93				
Maritime Coal, Ry. & Power Co.....	51 64				
Maryland & Pennsylvania Ry.....	1 98				
Metropolitan SS. Co.....	31 88				

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Miramichi Quarry Co.....	382 38
Morgan's Louisiana & Texas Ry.....	10 41
Mather Stock Car Co.....	0 35
Minneapolis & St. Louis Ry.....	98 58
Missouri River Dispatch Transportation Co.....	39 96
Morris & Co. Refrigerator Line.....	0 32
Mobile & Ohio Ry.....	64 29
Midland Valley Ry.....	0 42
Millerton Station.....	333 73
Morrill Refrigerator Line.....	0 39
J. T. Munro.....	23 82
Montour R. R.....	13 99
Missouri, Oklahoma & Gulf Ry.....	1 66
Missouri & North Arkansas Ry.....	0 82
Moneton Construction Co.....	190 00
Roger Miller & Sons.....	12,687 69
Miramichi Foundry & Machine Co.....	14 79
K. A. Morrison.....	260 01
Maritime Lumber Co.....	3 00
Manitoul Tramways Co.....	31 50
Millerton Extract Co.....	24 02
J. H. Marks.....	25 03
Estate H. F. McDougall.....	361 37
E. H. McElmon.....	6 01
Reid McManus.....	1,648 79
T. McAvity & Son.....	424 92
Nelson McDougall.....	75 00
Alex. H. McSween.....	188 16
Geo. McKean.....	190 25
M. J. McLeod.....	17 50
McCloud River R. R.....	1 56
New York Central Ry.....	1,192 97
Newfoundland Ry.....	36 85
New York, New Haven & Hartford Ry.....	604 08
Northern Navigation Co.....	31 05
New York, Chicago & St. Louis Ry.....	163 68
Nova Scotia Steel & Coal Co.....	193 36
New Brunswick & Prince Edward Island Rail- way Co.....	14,209 80
Northern Pacific Ry.....	137 83
National Dispatch Ry.....	14 12
Norfolk & Western Ry.....	35 64
New York, Philadelphia & Norfolk Ry.....	0 98
New Orleans & North Eastern Ry.....	1 65
New York, Ontario & Western Ry.....	0 74
New Glasgow Freight Station.....	2 02
National Labour Congress.....	446 40
North Shore Ry.....	108 90
Carried forward.....	481,165 93
Carried forward.....	4,078,613 91
Carried forward.....	5,081,661 75

7 GEORGE V, A. 1917

No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916—Continued.

To	Da.	\$ est.	\$ cts.	4' r.	\$ cts.	\$ cts.
Brought forward.....		481,165 93	4,078,613 91	Brought forward.....		5,081,661 75
Norfolk Southern Ry.....		5 51				
New Orleans Great Northern Ry.....		0 91				
New York, Susquehanna & Western Ry.....		4 08				
New Brunswick Coal Storage Co.....		119 75				
Nashville, Chattanooga & St. Louis Ry.....		69 84				
New Orleans, Mobile & Chicago Ry.....		4 36				
Nova Scotia Car Works.....		72 70				
National Railways of Mexico.....		986 18				
Nova Scotia Clay Works.....		349 54				
New Brunswick & Prince Edward Island Rail- way (operation).....		369 13				
New England Coal & Coke Co.....		0 84				
Captain A. H. Olsen.....		35 00				
Post Office Department.....		79,776 92				
Prince Edward Island Ry.....		2 87				
Pullman Co.....		103 71				
Pennsylvania R. R.....		1,188 23				
Price Brothers.....		1,336 02				
Pittsburgh, Cincinnati, Chicago & St. Louis Ry		140 36				
Pennsylvania Co.....		269 47				
Pere Marquette Ry.....		300 42				
Pittsburg & Lake Erie Ry.....		104 14				
Philadelphia & Reading Ry.....		229 33				
Pickford & Black.....		162 99				
Peoria & Eastern Ry.....		0 36				
Pittsburg, Shamutt & Northern Ry.....		1 55				
Pacific Fruit Express.....		73 58				
Peerless Transit Line.....		98 99				
W. J. Poupore Co.....		79 75				
E. Powers.....		3 15				
Polar Refrigerator Line.....		10 15				
Postage stamp account.....		1,390 65				
Peach River Lines.....		0 19				
Pittsburg & Susquehanna Ry.....		0 25				
Piedmont & Northern Ry.....		0 22				
C. L. Peterson & Co.....		15 00				
Quebec Central Ry.....		2,931 23				
Quebec, Montreal & Southern Ry.....		268 58				
Quebec & Lake St. John Ry.....		88 08				
Quebec Contracting Co.....		701 40				
Quebec Oriental Ry.....		9 10				
Rutland Ry.....		22 67				
Ryan & MacDonnell.....		2,736 26				

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Rockingham Station.....	56 50
Record Foundry & Machine Co.....	7 78
Railway Automatic Car Co.....	61 40
Richmond, Fredericksburg & Potomac Ry.....	20 51
Roberval—Saguenay Ry.....	0 36
Swift Refrigerator Line.....	46 66
Sackville Station.....	65 97
Salisbury & Albert Ry.....	70 450 84
Southern Pacific Ry.....	136 04
Southern Ry.....	39 25
St. Wenceslas Station.....	7 77
Seaboard Air Line.....	1 05
St. Louis & San Francisco Ry.....	127 03
F. R. Stiles.....	7 50
San Pedro, Los Angeles & Salt Lake Ry.....	1 01
St. Louis Southwestern Ry.....	72 75
St. Joseph & Grand Island Ry.....	0 57
St. Monique Station.....	10 00
Sumner Co.....	40 00
Santa Fé Refrigerator Despatch.....	65 21
Sussex Station.....	25 00
Enoch Steeves.....	24 26
San Antonio & Arkansas Pass Ry.....	1 40
Steel Co. of Canada.....	1 157 63
Swift Canadian Co.....	150 00
St. John & Quebec Ry. Co.....	30 240 63
C. E. Smith.....	327 31
Soper & McDougall.....	1 290 19
St. Louis, Brownsville & Mexico Ry.....	0 70
R. B. Stewart.....	0 25
St. John & Quebec Ry. (operation).....	47 35
Swedish Canadian Lumber Co.....	1 20
R. C. Sutherland.....	285 08
Gordon G. Scott.....	10 67
Isidore St. Laurent.....	36 55
Sharpe Construction Co.....	93 51
Teniscouatta Ry.....	275 37
Texas & Pacific Ry.....	85 00
Toronto, Hamilton & Buffalo Ry.....	2 87
Transcontinental Ry.....	125 905 03
Wm. Thomson & Co.....	6 04
Toledo, St. Louis & Western Ry.....	24 02
Toledo & Ohio Central Ry.....	18 16
Toledo, Icaria & Western Ry.....	5 01
D. Tremblay.....	123 29
F. M. Tweedie.....	49 90
Toronto Construction Co.....	429 75
Teniskaming & Northern Ontario Ry.....	18 55
Carried forward.....	807 060 34
	4 078 613 91

Carried forward

5,081,661 75

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No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916—Continued.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
Brought forward.....	807,000,	34	4,078,613	91	Brought forward.....		
To							5,081,661 75
Trinity & Brazos Valley Ry.....	49	52					
Terminal R.R. Association of St. Louis.....	0	79					
Times Publishing Co.....	2	09					
Dr. Geo. Fingley.....	79	52					
Town of North Sydney.....	5	10					
Truro Steel Co.....	32	90					
Vandalia R.R.....	18	56					
T. S. Vipond & Co.....	180	00					
Vicksburg, Shreveport & Pacific Ry.....	34	92					
Union Pacific Ry.....	92	38					
Union Line.....	0	54					
Union Tank Line.....	1	15					
Francois Vaillancourt.....	85	26					
Van Dyke Lumber Co.....	9	50					
Valley R. R.....	0	48					
Wabash Ry.....	238	36					
Western Union Telegraph Co.....	322	73					
A. N. Whitman & Son.....	75	00					
Wabash Pittsburg Terminal Ry.....	9	14					
Western Maryland Ry.....	3	00					
Wheeling & Lake Erie Ry.....	16	72					
Robert Wilson.....	8	10					
Western Ry. of Alabama.....	3	13					
White City Refrigerator Dispatch.....	4	04					
Frank W. Wilson.....	2	72					
Wichita Falls & North Western Ry.....	18	44					
York & Carlisle Ry.....	148	30					
			808,502	73			
To							
Individuals and Companies Ledger—							
Cash Sales.....	2,253	46					
Cook Construction Co. and Wheaton Bros.....	3	65					
Canadian Pacific Ry.....	174	13					
Dept. Militia & Defence.....	2,381	75					
Dominion Coal Co.....	1	84					
Eastern Car Co.....	3,476	28					
Halifax & Southwestern Ry.....	3,79	63					
International Railway.....	375	66					
Transcontinental Ry.....	13,568	04					
Intercolonial & Prince Edward Island Railways							
Employees Provident Fund.....	26	35					
			22,340	79			

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To Traffic Ledger—	914 09		
H. & A. Allan	136 70		
Consul General for France	5 34		
Dept. Marine & Fisheries	89,525 86		
Dept. Militia & Defence	75 75		
Dept. of Agriculture, New Brunswick	2,687 66		
Dept. of Naval Service	105 00		
Dept. of Agriculture, Ottawa	1,480 28		
Grand Trunk Ry.	131 24		
International Ry. of New Brunswick (Old Act)	9 50		
A. G. Jones Co.	508 00		
Northern New Brunswick & Seaboard Ry.	1,581 43		
Ocean Charges, St. John	868 70		
Ocean Charges, Halifax	68 47		
Pickford & Black	35,412 88		
Russian-American Line	4 95		
Reid Newfoundland Co.—Suspense	23,479 90		
St. Lawrence & Adirondack Ry.	0 14		
Steamship Prince Edward Island	444 54	157,490 43	
To Car Service Ledger—			
Atlantic Coast Line R.R.	85 05		
Albany & Hudson Ry.	4 25		
Arkansas, Louisiana & Gulf Ry.	5 85		
Arkansas, Southeastern Ry.	9 45		
Chicago, Cincinnati & Louisville Ry.	137 25		
Cincinnati, Bluffton & Chicago Ry.	11 25		
Canaquet & Gulf Shore Ry.	71 20		
Canada & Gulf Terminal Ry.	1,032 75		
Chicago, Anamosa & Northern Ry.	8 10		
Cape Girardeau Northern Ry.	4 50		
Canadian Northern Ry.	61 40		
Greenville & Knoxville Ry.	3 60		
Georgia & Florida Ry.	31 10		
Huntingdon & Brand Top Mountain Ry.	10 35		
Intercolonial Coal Co.	1 00		
Jamestown, Chautauqua & Lake Erie Ry.	45 50		
Jamestown, Westfield & North Western Ry.	4 95		
Kansas City & Memphis Ry.	3 60		
Kanana & Prattsburgh Ry.	0 90		
Kent Northern Ry.	847 74		
Liberty-White R.R.	5 85		
Leavenworth & Topeka Ry.	0 90		
Muscataine North & South Ry.	4 50		
Missouri, Oklahoma & Gulf Ry.	42 30		
Newburg & South Shore Ry.	5 85		
Natchez, Columbia & Mobile Ry.	1 35		
Carried forward	2,440 54	5,066,947 86	
			5,081,661 75

Carried forward

7 GEORGE V, A. 1917

No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916—Continued.

Dr.	\$ cts.	\$ cts.	Cr.	\$ cts.
Brought forward.....	2,440 54	5,066,947 86	Brought forward.....	5,081,661 75
Northern New Brunswick & Seaboard Ry.....	380 70			
New Jersey & Pennsylvania Ry.....	13 95			
New Brunswick & Prince Edward Island Ry.....	157 40			
Pittsburg & Susquehanna Ry.....	4 05			
Quebec & Lewis Ferry Co.....	11 90			
Register & Glenville Ry.....	1 75			
Randolph & Cumberland Ry.....	10 50			
South Dakota Central Ry.....	52 30			
Savannah & Statesboro Ry.....	4 25			
Sydney & Louisburg Ry.....	141 35			
St. John & Quebec Ry.....	92 50			
San Antonio, Fredericksburg & Northern Ry.....	1 80			
Trinity & Brazos Valley Ry.....	5 85			
Tampa & Jacksonville Ry.....	1 35			
Valdosta, Moultrie & Western Ry.....	1 35			
Wabash, Chester & Western Ry.....	20 70	3,342 24		
To Rents Ledger—				
Newfoundland Ry.....	1,516 66			
Post Office Department.....	6 25			
J. M. O'Brien.....	1,399 68			
Canadian Pacific Ry.....	645 80			
Mrs. Ryan.....	70 00			
Andre Gosselin.....	6 00			
James Elliott.....	104 00			
William Barrie.....	53 67			
Department of Militia and Defence.....	475 00			
Steamer "Granville".....	25 00			
Geo. Thomas.....	24 00			
Henry Fraser.....	10 00			
La Municipalité du Village de St. Benoit (Joseph Labrie, Amqui).....	1 00			
Rev. Wilfred Sormany.....	10 00			
Pierre Thibault.....	10 00			
Matapedia Water Supply Co.....	60 00			
A. S. Black.....	10 00			
Town of Bathurst.....	3 00			
City of Moncton.....	5 00			
Samuel Laughlin.....	5 00			
Ellen Powers.....	6 50			
Adamsville Telephone Co.....	3 00			
Antigonish & Sherbrooke Telephone Co.....	3 50			
City of Sydney.....	1 00			

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Barneys River Weighing Co...	1 00		
James Casey.....	5 00		
Townsend & Squires...	10 00		
Charles Goguen.....	10 00		
A. F. Monette.....	8 00		
Joseph Côté.....	26 00		
David Rouleau.....	12 00		
Emile St. Laurent	245 00		
Malcolm Samson.....	2 00		
C. Veilleu.....	44 00		
N. Lamontagne.....	7 50		
Dame C. W. Carrier.	276 00		
Oliver Gingras.....	69 00		
Misses Camire.....	12 00		
Maurice Camire.....	11 00		
Mrs. J. Atkinson.....	115 00		
Mrs. L. Roberge.....	128 00		
James Cloutier.....	46 00		
Geo. Cloutier.....	46 00		
Frank Cloutier.....	4 50		
Jean Lamothe.....	63 00		
A. Babin.....	234 00		
Atlantic Lumber Co.	2 00		
Sackville Cement Co	3 00		
Hiram D. McLean.....	20 00		
Miramichi Lumber Co.	10 00		
James Comeau.....	20 80		
Geo. A. Mason.....	5 00		
Arthur S. Comeau.....	5 00		
Jos. Beaulieu.....	1 00		
Estate of J. R. R. Weir	13 00		
Estate Mrs. Agnes Weir	4 00		
Thos. Sharp.....	5 00		
William Young.....	8 00		
City of Moncton.....	1 00		
Charles Richards.....	1 00		
Estate of Patrick McCourt.	1 00		
James E. Kelly.....	4 00		
Dr. E. O. Steeves.....	1 00		
John Roach.....	2 00		
M. McLean.....	15 00		
Arthur W. Moffat.....	2 00		
Estate of F. H. McDougall.	7 00		
Imperial Coal & Mining Co....	1 00		
G. W. White.....	3 75		
James H. Adams.....	1 00		
B. N. T. Underhill.....	6 00		
H. McC. Hart.....	55 00		
Carried forward.....	6,028 61	5,070,290 10	
Carried forward.....			5,081,661 75

7 GEORGE V, A. 1917

No. 11.—INTERCOLONIAL RAILWAY—General Balance, Year ended March 31, 1916—*Concluded.*

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
Brought forward	6,028	61	5,070,290	10	Brought forward		
To Swedish-Canadian Lumber Co.	5	00					
Simcon Fortin	4	00	6,037	61			
To Advances—							
H. M. Stevens	5	06					
A. R. Smith	20	00					
A. M. McLellan	16	65					
T. W. Butler	276	96					
J. K. McGrath	31	85					
C. Coulombe	57	52					
W. J. Hughes	25	00					
W. C. Chalmers	6	00					
Phillipe Roy	20	00					
H. W. Sangster	200	00					
Halifax Tramway Co.	4,675	00	5,334	04			
			5,081,661	75			
							5,081,661 75

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—Statement of Receipts and Expenses, Year ended
March 31, 1916.

Expenses.	\$ cts.	Receipts.	\$ cts.
Maintenance of way and structures....	2,489,778 20	Received from parliamentary appropriations on account of Intercolonial Railway working expenses and improvements and betterments through the Department of Railways and Canals.....	14,067,391 41
Maintenance of equipment.....	2,367,679 33	Cash received for sale of old rolling stock.....	1,423,600 00
Traffic expenses.....	256,871 81	Amount transferred to Equipment Renewal Account, unexpended balance of capital rolling stock 1915-16 vote.....	142,775 05
Transportation expenses—rail line....	6,930,096 31	Amount transferred from commissary stock store.....	930 00
Transportation expenses—water line...	50,619 83	Difference between the earnings of the year 1915-16 and the total amount of expenditure for the year, less the amount paid by the Department at Ottawa for compassionate allowances credited to equipment renewal.. \$1,525,895 57	
Miscellaneous operations.....	152,058 44	Rail renewal.....	340,000 00
General expenses.....	304,391 92	Fire renewal.....	160,000 00
Amount expended for renewal of rolling stock.....	28,500 00	Balance at credit of Fire Renewal Account at April 1, 1915.....	2,025,895 57
Amount expended for renewal of buildings.....	4,595 45		152,538 66
Improvements and betterments.....	1,515,895 57		
	14,100,486 86		
Balance—			
Equipment Renewal Account.....	3,064,700 62		
Rail Renewal Account.....	340,000 00		
Fire Renewal Account.....	307,943 21		
	17,813,130 69		17,813,130 69

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY—Equipment Renewal Account.

During the year ended March 31, 1916, there was credited to the Equipment Renewal Account on account of charges to working expenses.. . . .	\$ 300,000 00
During the year ended March 31, 1916, there was credited to Equipment Renewal Account on account of charges to improvements and betterments.. . . .	1,225,895 57
Cash received from sale of old rolling stock.. . . .	3,000 00
Amount transferred for unexpended balance of capital appropriation for rolling stock for year 1915-16.. . . .	142,775 05
Amount for rolling stock sold to the Transcontinental Railway during the year ended March 31, 1916.. . . .	1,420,600 00
Amount transferred from commissary stock.. . . .	930 00
	<hr/>
There has been charged during the year against the above account for rolling stock purchased—	\$3,093,200 62
8 second-hand sleeping cars.. . . .	\$16,000 00
10 " tourist cars.. . . .	12,500 00
	<hr/>
	28,500 00
Leaving a credit balance to the credit of Equipment Renewal Account on March 31, 1916.. . . .	<hr/>
	\$3,064,700 62

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERCOLONIAL RAILWAY—Rail Renewal Account.

During the year ended March 31, 1916, there was credited to the Rail Renewal Account on account of charges to working expenses.. . . .	\$156,000 00
During the year ended March 31, 1916, there was credited to improvements and betterments.. . . .	190,000 00
	<hr/>
	\$340,000 00

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERCOLONIAL RAILWAY—Fire Renewal Account.

On April 1, 1915, there was a balance to the credit of Fire Renewal Account of.. . . .	\$152,538 66
During the year ended March 31, 1916, there was credited to Fire Renewal Account on account of charges to working expenses.. . . .	60,000 00
During the year ended March 31, 1916, there was credited to Fire Renewal Account on account of charges to improvements and betterments.. . . .	100,000 00
	<hr/>
	\$312,538 66
There has been charged during the year against the above amount.. . . .	4,595 45
	<hr/>
Leaving a credit balance to the credit of Fire Renewal Account on March 31, 1916.. . . .	<hr/>
	\$307,943 21

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—Statement of Cash Received, Year ended
March 31, 1916.

DR.	\$ cts.	CR.	\$ cts.
To Balance on hand April 1, 1915....	0 02	By Amount deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1916.....	19,596,154 05
Amounts received during year and credited as follows:—		Leaving a balance on hand at March 31, 1916, made up as follows.....	0 02
Station agents.....\$10,387,919 48			
Traffic ledger.....3,456,807 54			
Car Service ledger.....646,558 42			
Individuals and Companies ledger 4,753,868 57			
General ledger.....327,136 24			
Rents ledger.....23,863 80	19,596,154 05		
	19,596,154 07		19,596,154 07

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY—Statement of Averages, Year ended March 31, 1916.

Mileage of railway.. . . .	1,526.78
Engine mileage.. . . .	9,705,642
Total train mileage.. . . .	7,890,939
“ car mileage.. . . .	125,915,220
“ gross earnings.. . . .	\$ 14,068,791.41
“ working expenses.. . . .	12,551,493.84

Ratio of earnings to gross earnings—

Revenue from transportation, rail line.. . . .p.c.	97.51
“ “ water line.. . . .	36
“ incidentals.. . . .	2.13
Gross earnings per mile of railway (not including water line) .. . \$	9,181.53
Gross earnings per engine mile (not including water line).. .	1.45
“ train mile (not including water line) .. .	1.87
“ car mile (not including water line) .. .cts.	11.13

Ratio of expenses to gross earnings—

Maintenance of way and structures.. . . .p.c.	17.70
“ equipment.. . . .	16.83
Traffic expenses.. . . .	1.83
Transportation rail line.. . . .	49.26
“ water line.. . . .	0.36
Miscellaneous operations.. . . .	1.08
General expenses.. . . .	2.16

Expenses per train mile (not including expenses for water line)—

Maintenance of way and structures.. . . .cts.	31.55
“ equipment.. . . .	30.00
Traffic expenses.. . . .	3.26
Transportation rail line.. . . .	87.82
Miscellaneous operations.. . . .	1.93
General expenses.. . . .	3.86

Total per train mile.. . . .	151.96
------------------------------	--------

Expenses per mile of railway (not including expenses for water line)—

	Actual.
Maintenance of way and structures.. . . .	\$1,630 74
“ equipment.. . . .	1,550 77
Traffic expenses	168 24
Transportation expenses.. . . .	4,539 03
Miscellaneous operations.. . . .	99 59
General expenses.. . . .	199 37

Total expenses per mile of railway.. . . .	\$8,187 74
--	------------

Locomotive and car repairs per locomotive and car—

Locomotive, 345.. . . .	\$1,930 91
Passenger, 501.. . . .	717 77
Freight cars, 14,095.. . . .	60 12

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—Comparative statement of principal revenue-producing freight over the Intercolonial Railway in 1914-15 and 1915-16.

Description.	1914-15.	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	127,460	143,675
Flour.....	237,444	282,290
Potatoes.....	39,609	41,837
Hay.....	83,491	124,423
Apples, fruits, and vegetables.....	31,260	29,954
Other mill products.....	87,759	102,951
Other products of agriculture.....	9,490	18,234
Cotton.....	3,014	2,849
Products of Animals—		
Hogs and horses.....	20,119	12,290
Sheep and cattle.....	17,498	15,376
Lambs.....	1,187	1,339
Dressed meats.....	13,839	17,290
Poultry and game.....	378	702
Fish.....	38,813	40,375
Oysters and clams.....	2,140	2,551
Wool.....	4,109	4,989
Hides and leather.....	9,364	8,515
Other packing-house products.....	23,086	30,303
Products of Mines—		
Coal and coke.....	1,121,754	1,350,223
Ore.....	9,221	15,724
Sand stone, etc.....	219,604	272,131
Salt.....	11,856	12,609
Slate and granite.....	6,085	5,976
Phosphate.....	18,922	13,275
Other products of mines.....	8,573	15,965
Products of Forests—		
Lumber.....	610,208	823,473
Bark.....	14,242	18,197
Cordwood.....	39,837	26,516
Pulpwood.....	273,919	167,799
Woodpulp.....	34,337	32,925
Shingles.....	53,873	70,304
Other forest products.....	104,174	104,853
Manufactures—		
Petroleum and oils.....	39,907	47,948
Sugar.....	68,008	89,299
Iron and steel rails.....	73,275	82,687
Iron, pig and bloom.....	33,429	109,046
Wire rods.....	9,854	44,730
Steel billets.....	37,102	63,089
Other casting and machinery.....	65,457	121,447
Bar and steel metals.....	53,514	127,471
Brick, lime and cement.....	126,730	130,192
Agricultural implements.....	10,924	10,842
Furniture.....	9,783	15,798
Immigrants' effects.....	3,678	4,455
Miscellaneous—manufactured.....	720,676	343,700
Miscellaneous—unmanufactured.....		446,603
	4,529,002	5,447,220

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

STATEMENT showing quantity of the undermentioned articles carried over the Inter-colonial Railway during fiscal year ended March 31, 1916.

Articles.	Via Montreal.	Via Ste. Rosalie	Via St. John.	Local Stations.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
Raw sugar, west bound.....	881			17,108	17,989
Refined sugar, west bound.....	19,706	7,824	897	41,406	69,833
European freight—					
West bound, via Halifax.....	5,000			29,178	34,178
West bound, via St. John.....	7,848	18	2	18,732	26,600
East bound, via Halifax.....	77,605	47,963	17,382	*251,819	394,769
East bound, via St. John.....	33,571	138		*56,640	90,349
Grain for export, via Halifax.....	Bush. 83,955		Bush. 420,348	Bush. 116,409	Bush. 1,942,642
Grain for export, via St. John.....					
Fresh fish.....	Tons. 2,821	Tons. 785	Tons. 2,141	Tons. 7,339	Tons. 13,086
Salt fish.....	9,684	2,319	2,305	10,690	24,998
Coal.....			17,023	1,316,361	1,333,384

*Includes lumber exported, via Halifax, 135,344 tons. Via St. John, 55,676 tons.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

INTERCOLONIAL RAILWAY—Descriptive statement of Freight transported during the year ended March 31, 1916.

Articles.	Number.	Tons.
Barrels flour.....	2,822,900	282,290
Bushels grain.....	6,537,213	143,675
Live stock.....	128,312	29,005
*Sup. feet lumber.....	720,012,230	998,630
Coal and other fuel.....		1,376,739
Manufactured goods.....		1,069,260
All other articles.....		1,547,621
Total.....		5,447,220

*Includes lumber, shingles, and other forest products.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—Statement of Coal shipped over the I.C.R., during the fiscal year ended March 31, 1916.

From	Via St. John.	Via Ste. Rosalie	Via Montreal.	For Local Stations.	Total
	Tons.			Tons.	Tons.
Stellarton.....				439,073	439,073
Westville.....	16,877				16,877
Point Tupper.....				134,454	134,454
Sydney Mines.....				113,970	113,970
North Sydney.....				8,102	8,102
Sydney.....				54,714	54,714
Little Bras D'Or.....				3,004	3,004
Springhill.....				222,558	222,558
Maccan.....	146			258,256	258,402
Norton.....				1,588	1,588
Harcourt.....				3,857	3,857
McGivney's.....				17,709	17,709
Other stations.....				59,076	59,076
Total.....	17,023			1,316,361	1,333,384

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

INTERCOLONIAL RAILWAY—Statement of Receipts.

	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1915.				
April.....	257,722 18	625,373 15	55,514 35	938,609 68
May.....	292,738 23	608,229 14	48,687 84	949,655 21
June.....	289,379 47	649,972 35	85,562 04	1,024,913 86
July.....	387,045 44	718,729 63	73,545 90	1,179,320 97
August.....	421,558 65	695,234 00	78,197 61	1,194,990 26
September.....	397,524 78	754,750 94	123,076 92	1,275,352 64
October.....	345,950 13	886,090 19	125,839 05	1,357,879 37
November.....	349,431 93	867,907 82	94,716 11	1,312,055 86
December.....	353,330 52	943,830 97	83,325 65	1,380,487 14
1916.				
January.....	266,505 04	826,634 42	42,049 65	1,135,189 11
February.....	256,771 10	832,997 43	42,585 67	1,132,354 20
March.....	392,922 11	790,589 17	4,471 43	1,187,983 11
1915-16.....	4,010,879 58	9,200,339 21	857,572 62	14,068,791 41
1914-15.....	3,291,916 96	7,310,765 11	842,191 07	11,444,873 14

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY—Freight Statement.

Month.	Local.		Through.		Total.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915.						
April.....	233,026	43,915,370	125,598	56,078,119	358,624	99,993,489
May.....	252,131	48,959,479	106,497	47,977,351	358,628	96,936,830
June.....	272,955	50,550,812	102,374	45,232,749	375,329	95,783,561
July.....	358,699	68,325,480	109,421	48,216,023	468,120	116,541,503
August.....	310,970	62,931,623	112,218	52,469,342	423,188	115,400,965
September.....	341,382	60,123,690	124,841	58,414,114	466,223	118,537,804
October.....	374,240	72,428,909	156,572	69,987,370	530,812	142,416,279
November.....	359,234	84,624,799	164,241	70,217,898	523,475	154,842,697
December.....	393,878	88,270,690	195,547	93,743,383	589,425	182,014,073
1916.						
January.....	251,864	68,806,733	187,443	94,443,119	439,307	163,249,852
February.....	324,343	77,385,260	150,616	76,320,947	474,959	153,706,207
March.....	316,130	74,732,021	123,000	56,799,598	439,130	131,531,619
1915-16.....	3,788,852	801,054,866	1,658,368	769,900,013	5,447,220	1,570,954,879
1914-15.....	2,983,719	523,727,852	1,545,283	634,508,016	4,529,002	1,158,235,868

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

INTERCOLONIAL RAILWAY—Passenger Statement.

Month.	Local.		Through.		Total.	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915.						
April.....	297,009	10,153,734	16,459	2,809,646	313,468	12,963,380
May.....	301,567	10,040,813	21,758	4,476,112	323,325	14,516,925
June.....	307,138	11,306,203	15,451	3,530,789	322,589	14,836,992
July.....	387,221	14,516,598	27,325	4,895,524	414,546	19,412,122
August.....	389,643	15,393,505	28,669	5,733,457	418,312	21,126,962
September.....	364,331	14,346,959	30,881	7,037,439	395,212	21,384,398
October.....	302,664	10,586,877	23,599	3,864,356	326,263	14,451,233
November.....	297,851	10,700,149	25,507	6,296,672	323,358	16,996,821
December.....	346,784	14,003,302	28,014	7,249,673	374,798	21,252,975
1916.						
January.....	283,941	8,578,705	19,389	4,691,630	303,330	13,270,344
February.....	269,114	8,300,275	14,828	4,023,225	283,942	12,323,504
March.....	309,340	10,897,608	15,904	5,383,697	325,244	16,281,305
1915-16.....	3,856,603	138,824,728	267,784	59,992,229	4,124,387	198,816,957
1914-15.....	3,348,614	119,708,579	264,757	56,481,170	3,613,371	176,189,749

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY—Statistical Statement of Earnings and Operating Expenses by Districts, Year ended March 31, 1916.

Summary.	1st District.				2nd District.			
	Passenger.	Freight.	Total.		Passenger.	Freight.	Total.	
			\$	cts.			\$	cts.
Train miles.....	878,686	1,574,514	2,453,200		758,611	1,271,383	2,029,994	
Locomotive miles.....	935,911	1,626,745	2,562,656		780,412	1,440,511	2,220,923	
Gross ton miles.....	327,649,738	1,474,592,516	1,802,242,254		243,080,047	1,084,720,450	1,327,800,497	
Passengers and tons freight moved one mile.....	65,062,365	605,946,435			39,552,176	465,273,391		
Earnings—								
Passenger.....	1,274,975 85	\$	1,274,975 85		782,479 48	\$	782,479 48	
Freight.....	3,481,526 50		3,481,526 50		2,147,404 28		2,147,404 28	
Mails and express.....	261,619 76		261,619 76		184,673 59		184,673 59	
Miscellaneous.....	178 63	—4,640 86	—4,461 93		9,586 27	15,004 10	24,590 37	
Total revenue.....	1,536,774 54	3,476,885 64	5,013,660 18		976,739 34	2,162,408 38	3,139,147 72	
Revenue per train mile.....	1 70	2 21	2 04		1 29	1 70	1 55	
Revenue per locomotive mile.....	1 64	1 80	1 73		1 25	1 50	1 41	
Revenue per 1,000 gross ton miles.....	4 69	2 36	2 78		4 02	1 99	2 36	
Revenue per passenger and ton freight one mile.....	*2 33	*0 57			*2 45	*0 46		
Surplus.....	433,132 64	936,565 61	1,369,698 25		85,046 03	437,388 17	522,434 20	
Operating expenses—								
Maintenance of way and structures.....	216,230 24	373,587 03	589,827 27		223,638 41	350,277 75	573,916 16	
Maintenance of equipment.....	197,606 91	491,760 25	689,367 16		161,224 49	361,267 73	522,492 22	
Traffic expenses.....	36,463 01	42,071 77	78,534 78		30,872 66	34,251 06	65,123 72	
Station service.....	65,997 14	209,520 54	275,517 68		34,497 38	91,407 95	125,965 33	
Yard service.....	27,723 41	298,341 21	326,064 62		5,118 13	38,035 48	43,153 61	
Locomotive service (road).....	276,616 71	711,113 52	987,730 23		211,118 78	554,860 61	765,979 39	
Train service.....	137,589 90	230,189 19	367,779 09		120,189 03	174,292 41	294,481 44	
Other transportation expenses.....	72,156 47	122,962 44	195,118 91		39,582 05	71,506 97	111,089 02	
Total transportation expenses.....	580,083 63	1,572,126 90	2,152,210 53		410,505 37	930,163 42	1,340,668 79	
Miscellaneous operations.....	39,443 79	39,443 79	39,443 79		36,170 85	36,170 85	36,170 85	
General expenses.....	33,814 32	60,764 08	94,578 40		29,281 53	49,080 25	78,341 78	
Total operating expenses.....	1,103,641 90	2,540,320 03	3,643,961 93		891,693 31	1,725,020 21	2,616,713 52	
Cost per train mile.....	1 26	1 61	1 49		1 18	1 36	1 29	
Cost per locomotive mile.....	1 18	1 32	1 27		1 14	1 20	1 18	
Cost per 1,000 gross ton miles.....	3 37	1 72	2 02		3 67	1 50	1 97	

INTERCOLONIAL RAILWAY—Statistical Statement of Earnings and Operating Expenses by Districts, Year ended March 31, 1916—*Con.*

	3rd District.				4th District.				Total Districts.			
	Passenger.		Freight.		Passenger.		Freight.		Passenger.		Freight.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Train miles.....	1,037,863		972,515		424,303		973,064		1,397,367		4,791,476	
Locomotive miles.....	1,138,048		1,681,726		466,085		1,336,204		1,802,289		6,385,186	
Gross ton miles.....	340,307,497		959,102,839		115,552,356		566,851,938		1,026,589,638		4,085,267,743	
Passengers and tons freight moved one mile.....	64,660,561		324,273,047		28,541,855		198,228,518		198,816,957		1,593,721,391	
Earnings—												
Passenger.....	1,367,770	37	1,367,770	37	585,653	88	1,337,939	00	4,010,879	58	9,149,719	38
Freight.....	211,472	90	2,182,849	60	123,685	96	9,623	44	781,452	30	781,452	30
Mails and express.....	21,384	48	19,480	88	5,503	08			36,652	76	39,467	56
Miscellaneous.....												
Total revenue.....	1,600,627	84	2,202,330	48	714,842	92	1,347,562	44	4,828,984	64	9,189,186	94
Revenue per train mile.....	1 54		2 26		1 68		1 38		1 56		1 92	
Revenue per locomotive mile.....	1 41		1 31		1 53		1 01		1 45		1 44	
Revenue per 1,000 gross ton miles.....	4 70		2 30		6 19		3 02		4 70		2 25	
Revenue per passenger and ton freight one mile.....	* 2 44		* 0 67		* 2 49		* 0 67		* 2 41		* 0 57	
Surplus.....	217,126	61	59,153	77	127,863	35			863,168	63	1,164,126	94
Operating Expenses—												
Maintenance of way and structures.....	328,453	55	297,632	61	155,292	20	334,716	41	923,554	40	1,356,223	80
Maintenance of equipment.....	222,782	84	325,160	51	89,748	35	218,128	25	671,302	59	1,396,316	74
Traffic expenses.....	43,351	19	26,394	93	69,746	12	26,722	87	127,431	18	129,440	63
Station service.....	94,528	68	360,932	88	38,650	58	152,701	00	233,673	78	814,622	37
Yard service.....	36,071	57	335,275	84	14,730	51	136,931	24	83,693	62	898,583	62
Locomotive service (road).....	324,233	87	491,492	45	136,908	61	446,409	90	948,877	97	2,203,786	48
Train service.....	152,100	25	150,500	77	61,753	49	111,901	04	213,654	53	706,883	41
Other transportation expenses.....	89,062	32	112,528	95	38,765	02	151,758	02	239,585	86	418,756	38
Total transportation expenses.....	625,906	69	1,450,640	89	290,878	21	999,701	20	1,990,579	41	4,952,632	41
Miscellaneous operations.....	52,779	48	6,038	34	58,817	82	17,625	98	146,420	10	6,038	34
General expenses.....	40,137	48	37,369	43	16,750	51	37,274	32	119,883	84	184,408	08
Total operating expenses.....	1,383,501	23	2,143,176	71	586,979	57	1,616,543	05	2,203,522	62	8,025,060	00
Cost per train mile.....	1 33		2 20		1 38		1 66		1 58		1 67	
Cost per locomotive mile.....	1 21		1 22		1 26		1 22		1 22		1 26	
Cost per 1,000 gross ton miles.....	4 07		2 23		5 08		2 85		3 86		1 96	

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	2 14	0 66	2 06	0 82	141,117 26	1 99	0 50	
Cost per passenger and ton freight one mile...								
Deficit.				268,980 61	141,117 26			50,619 83
Transportation water line—earnings.....							50,619 83	50,619 83
Transportation water line—expenses.....							50,619 83	50,619 83

*Miscellaneous revenue not included.

S. L. SHANNON,
Comptroller and Treasurer.

MONCTON, N.B., July 20, 1916.

7 GEORGE V, A. 1917

ST. JOHN AND QUEBEC RAILWAY—Revenue Account, Year ended March 31, 1916.

Expenditure.	\$ cts.	Earnings.	\$ cts.
Maintenance of way and structures...	35,508 30	Passenger.....	27,532 08
Maintenance of equipment.....	6,885 81	Freight.....	38,193 59
Traffic.....	3,036 85	Express.....	215 27
Transportation—Rail line.....	41,435 45		
General.....	3,890 72		
		Less—Miscellaneous.....	65,940 94
			8,198 23
		Balance.....	57,742 71
			33,014 42
	90,757 13		90,757 13

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

S9. JOHN AND QUEBEC RAILWAY—Maintenance of Way and Structures, Year ended March 31, 1916.

No.		\$ cts.
201.	Superintendence.....	1,701 98
202.	Roadway maintenance.....	17,691 22
208.	Bridges, trestles, and culverts.....	1,164 39
212.	Ties.....	223 11
214.	Rails.....	625 25
218.	Ballast.....	163 52
220.	Track laying and surfacing.....	9,094 27
221.	Right of way fences.....	10 63
225.	Crossings and signs.....	280 15
227.	Station and office buildings.....	157 87
229.	Roadway buildings.....	3 08
231.	Water Stations.....	317 58
235.	Shops and enginehouses.....	37 10
247.	Telegraph and telephone lines.....	142 05
249.	Signals and interlockers.....	0 50
269.	Roadway machines.....	233 52
271.	Small tools and supplies.....	826 01
272.	Removing snow, ice, and sand.....	2,689 24
276.	Stationery and printing.....	98 29
277.	Other expenses.....	5 80
278.	Maintaining joint tracks, yards, and other facilities. Dr.....	600 00
		36,065 56
No. 216.	Other track material.....	557 26
		35,508 30

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY—Maintenance and Equipment, Year ended
March 31, 1916.

	\$	cts.
No. 301. Superintendence.....	300	00
302. Shop machinery.....	1	00
308. Steam locomotives—repairs.....	4,640	14
314. Freight train cars—repairs...	1,347	65
317. Passenger train cars—repairs.....	497	00
326. Work equipment—repairs.....	100	02
	6,885	81

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY—Traffic Expenses, Year ended March 31, 1916.

	\$	cts.
No. 351. Superintendence.....	1,872	25
352. Outside agencies.....	272	95
353. Advertising.....	787	95
358. Stationery and printing.....	103	70
	3,036	85

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

ST. JOHN AND QUEBEC RAILWAY—Transportation, Rail Line, Year ended
March 31, 1916.

	\$	cts.
No. 371. Superintendence.....	1,648	46
372. Despatching trains.....	4	75
373. Station employees.....	3,135	03
376. Station supplies and expenses.....	591	95
382. Fuel for yard locomotives.....	32	87
386. Lubricants for yard locomotives.....	5	49
388. Enginehouse expenses—yard.....	366	51
389. Yard supplies and expenses.....	1	19
390. Operating joint yards and terminals. Dr.....	1,867	00
392. Train engine-men.....	5,787	33
394. Fuel for train locomotives.....	13,810	83
397. Water for train locomotives.....	586	04
398. Lubricants for train locomotives.....	214	29
399. Other supplies for train locomotives.....	70	64
400. Enginehouse expenses. train—.....	1,955	27
401. Trainmen.....	7,615	40
402. Train supplies and expenses.....	1,200	01
410. Stationery and printing.....	989	05
412. Operating joint tracks and facilities—Dr.....	393	09
414. Insurance.....	17	56
415. Clearing wrecks.....	816	70
416. Damage to property.....	33	87
417. Damage to live stock on right of way.....	244	60
418. Loss and damage—Freight.....	46	92
	41,435	45

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY—General Expenses, Year ended March 31, 1916.

	\$	cts.
No. 451. Salaries and expenses of general officers.....	854	27
452. Salaries and expenses of clerks and attendants.....	2,521	51
457. Pensions.....	472	42
458. Stationery and printing.....	32	17
460. Other expenses.....	10	35
	3,890	72

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY—General Balance, Year ended March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.	\$ cts.
To General stores.....	68 26	By Dominion of Canada.....		4,525 84
Auditors suspense.....	156 07	By Individuals and companies ledger:—		
Station agents.....	778 20	Geo. F. Burden.....	15 00	
Cash in transit.....	59 77	D. M. Carson, A. Ellgood and W. H. Gunter.....	15 00	
Freight in transit.....	113 50	Manurl, Brewer, Carson and Cronkite.....	0 83	
Province of New Brunswick.....	2,977 51	C. Murray, A. Hoyt and E. Parent.....	15 00	
To Traffic ledger:—		H. H. Veysey.....	114 68	160 51
Dept. Militia and Defence.....	37 88			
To Individuals and companies ledger:—				
Canadian Pacific Ry.....	1 48			
Canadian Express Co.....	1 85			
Hibbard Construction Co.....	8 20			
Maine Central Ry.....	8 91			
St. John and Quebec Ry. Co.....	474 72			
	\$ 4,686 35			\$ 4,686 35

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY—Store Account—Year ended March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.	\$ cts.
To Balance March 31, 1916.....	579 67	By Issues during year ended March 31, 1916.....	527 60	
Purchases.....	1,195 53	Sales of material.....	20 00	547 60
		Balance.....		
		Road stock store.....		68 26
	\$ 615 86			\$ 615 86

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY—Statement of Cash Received—Year ended March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.
To balance on hand, April 1, 1915.....	Nil.	By amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1916.....	69,852 72
Station agents.....	47,945 02		
Traffic ledger.....	20,905 85		
Individuals and Companies ledger.....	1,001 85		
	69,852 72		\$ 69,852 72
	\$ 69,852 72		

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

7 GEORGE V, A. 1917

ST. JOHN AND QUEBEC RAILWAY—Statement of Averages—Year ended March 31, 1916.

Mileage of railway.....		119.87
Total engine mileage.....		74,238
Total train mileage.....		68,444
Total car mileage.....		382,808
Ratio of earnings to gross earnings—		
Revenue from transportation.....	Per cent	0.80
Revenue from incidentals.....	"	99.20
Gross earnings per mile of railway.....	Dollars	481.71
" engine mile.....	"	0.78
" train mile.....	"	0.84
" car mile.....	Cents	15.08
Ratio of expenses to gross earnings—		
Maintenance of way and structures.....	Per cent	61.50
Maintenance of equipment.....	"	11.92
Traffic expenses.....	"	5.26
Transportation expenses.....	"	71.76
General expenses.....	"	6.74
Expenses per train mile—		
Maintenance of way and structures.....	Cents	51.88
Maintenance of equipment.....	"	10.06
Traffic expenses.....	"	4.44
Transportation expenses—rail line.....	"	60.54
General expenses.....	"	5.68
Total per train mile.....	\$	132.60
Expenses per mile of railway—		
Maintenance of way and structures.....	Dollars	296.22
Maintenance of equipment.....	"	57.44
Traffic expenses.....	"	25.34
Transportation expenses—rail line.....	"	345.67
General expenses.....	"	32.46
Total.....	\$	757.13
Locomotive and car repairs, per locomotive and car—		
Locomotive, 3.....		1,546.71
Passenger cars, 3.....		165.67
Freight cars, 62.....		21.74

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY—Statement of Receipts.

Date	Passenger Traffic.	Freight Traffic.	Express and Sundries.	Total.	Less Rental.	Total Revenue.
1915.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April..	2,412 32	4,420 98	.....	6,830 30	979 35	5,853 95
May	2,409 12	3,145 95	.....	5,555 07	767 15	4,787 92
June...	1,984 01	3,202 67	65 00	5,251 68	633 33	4,618 35
July...	3,924 50	2,409 29	21 80	6,355 59	500 45	5,855 14
August..	2,212 36	1,936 33	8 83	4,157 52	567 50	3,590 02
September.	2,815 75	1,778 69	53 94	4,648 38	444 45	4,203 93
October...	1,787 16	2,101 79	26 68	3,915 63	681 15	3,234 48
November...	1,852 96	2,489 06	23 44	4,365 46	665 94	3,699 52
December...	2,598 02	3,419 73	24 04	6,041 79	604 49	5,437 30
1916.						
January..	1,527 57	3,926 19	36 16	5,489 92	767 05	4,722 87
February...	1,899 86	3,977 53	16 07	5,893 46	892 30	5,001 16
March....	2,108 45	5,385 38	16 11	7,509 94	771 87	6,738 07
1915-16...	27,532 08	38,193 59	292 07	66,017 74	8,275 03	57,742 71
1915†.....	4,575 92	16,647 76	20 03	21,243 71	2,503 98	18,739 73

†From January to March, 1915.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY—Freight Statement.

	LOCAL.		THROUGH.		TOTAL.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915.						
April...	4,179	97,564	900	45,552	5,079	143,116
May	2,560	48,841	1,052	63,448	3,612	112,289
June...	2,496	57,432	1,258	81,892	3,754	139,324
July...	957	35,789	1,457	86,022	2,414	121,811
August...	1,212	56,707	422	21,526	1,634	78,233
September.	795	29,615	917	57,641	1,712	87,256
October...	1,799	57,151	887	46,491	2,686	103,642
November	1,372	45,390	617	29,185	1,989	74,575
December...	2,375	79,898	1,176	85,764	3,551	165,662
1916.						
January...	3,609	89,456	1,220	89,715	4,829	179,171
February...	3,504	91,690	1,424	85,523	4,928	177,213
March....	4,705	141,215	1,107	68,203	5,812	209,418
1915-16...	29,563	830,748	12,437	760,962	42,000	1,591,710
1915.....	From January to March 1915.				17,887	761,137

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY—Passenger Statement.

	LOCAL.		THROUGH.		TOTAL.	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915.						
April.....	2,797	98,378			2,797	98,378
May.....	3,793	92,687			3,793	92,687
June.....	2,486	77,705			2,486	77,705
July.....	6,300	259,145			6,300	259,145
August.....	3,409	83,328	2	126	3,411	83,454
September.....	4,273	139,441			4,273	139,441
October.....	3,065	72,276			3,065	72,276
November.....	3,078	71,687			3,078	71,687
December.....	3,732	95,619			3,732	95,619
1916.						
January.....	3,008	72,809	4	284	3,012	73,093
February.....	3,112	71,278	8	587	3,120	71,865
March.....	3,793	83,876	4	313	3,797	84,189
1915-16.....	42,846	1,218,229	18	1,310	42,864	1,219,539
1915.....	From January to March, 1915.				6,317	143,078

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY—Statement of principal revenue-producing freight commodities carried over the St. John and Quebec Railway.

Description.	*1915	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	360	1,365
Flour.....	139	168
Other mill products.....	1	288
Hay.....	5,040	5,780
Potatoes.....	5,069	10,254
Fruit and vegetables.....	79	181
Products of Animals—		
Horses and hogs.....	13	135
Sheep and cattle.....	24	42
Dressed meats.....	2	8
Hides and leather.....	1	14
Fish.....	1	22
Other products of animals.....	2	107
Products of Mines—		
Coal.....	51	731
Salt.....	1	18
Phosphate.....	1,047	1,325
Products of Forests—		
Lumber.....	1,403	4,093
Bark.....	238	1,566
Cordwood.....	1,782	2,527
Pulpwood.....	1,375	4,155
Shingles.....	94	20
Other forest products.....	213	1,518
Manufactures—		
Oils.....	12	16
Wire rods.....	1	2
Castings and machinery.....	88	227
Brick, lime and cement.....	21	334
Agriculture implements.....	2	60
Furniture.....	162	106
Manufactures.....	477	5,110
Miscellaneous.....	189	1,828
	17,887	42,000

*Includes January, February and March, 1915.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Capital Account.—Year ended March 31, 1916.

DR.		\$ cts.	CR.		\$ cts.
Mar. 31, 1915.	To cost of New Brunswick & Prince Edward Island Ry. to date...		Mar. 31, 1915.	By Dominion of Canada	24,700 00
Mar. 31, 1916.	Bring line up to Intercolonial Branch Line Standard, \$24,999.97.	24,700 00			
	Payment on account purchase price (5 Geo. V, cap. 16, sec. 4).				
	\$174,511.31.....	199,511 28	Mar. 31, 1916.	By Dominion of Canada	199,511 28
		224,211 28			224,211 28

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statutory Vote, 5 Geo. V, Cap. 16—12 months ended March 31, 1916.

DR.		\$ cts.	CR.		\$ cts.
Mar. 31, 1916.	To rental of New Brunswick and Prince Edward Island Railway from 1st August 1914, to 5th June, 1915—4% on \$270,000.....	9,143 01	Mar. 31, 1916.	By Dominion of Canada	10,186 30
	From 6th June, 1915, to 31st July, 1915—4% on \$170,000.....	1,043 28			
		10,186 29			10,186 29

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Revenue Account—Year ended March 31, 1916.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures.....	40,955	33	Freight.....	41,696	60
Maintenance of equipment.....	5,822	33	Passenger.....	10,404	56
Traffic.....	418	90	Mails and express.....	2,902	86
Transportation—Rail line.....	28,904	26		55,004	02
General.....	743	81	Less—		
			Miscellaneous.....	4,589	68
				50,414	34
			Balance.....	26,430	29
	76,844	63		76,844	63

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Way and Structures—Year ended March 31, 1916.

No.		\$	cts
201.	Superintendence.....	868	65
202.	Roadway maintenance.....	542	30
208.	Bridges, culverts, and trestles.....	1,695	84
212.	Ties.....	12,582	67
214.	Rails.....	969	17
216.	Other track material.....	3,223	16
218.	Ballast.....	305	92
220.	Track laying and surfacing.....	17,607	58
221.	Right of way fences.....	203	20
225.	Crossings and signs.....	125	05
227.	Station and office buildings.....	1,424	34
229.	Roadway buildings.....	28	85
231.	Water stations.....	67	87
235.	Shops and engine houses.....	174	66
241.	Wharves and docks.....	128	97
247.	Telegraph and telephone lines.....	7	41
269.	Roadway machines.....	169	87
271.	Small tools and supplies.....	130	30
272.	Removing snow, ice, and sand.....	569	19
276.	Stationery and printing.....	129	17
277.	Other expenses.....	1	16
		40,955	33

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

7 GEORGE V, A. 1917

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Equipment—
Year ended March 31, 1916.

	\$	cts.
No. 301. Superintendence.....	40	08
302. Shop machinery.....	11	36
308. Steam locomotives—repairs.....	4,120	71
314. Freight train cars—repairs.....	1,281	34
317. Passenger train cars—repairs.....	367	02
326. Work equipment—repairs.....	0	62
334. Stationery and printing.....	1	20
	5,822	33

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Traffic Expenses—Year ended
March 31, 1916.

	\$	cts.
No. 351. Superintendence.....	120	00
352. Outside agencies.....	1	50
353. Advertising.....	247	89
358. Stationery and printing.....	49	51
	418	90

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Transportation—Rail Line—
Year ended March 31, 1916.

	\$	cts.
No. 371. Superintendence.....	43	61
372. Despatching trains.....	110	49
373. Station employees.....	3,790	43
376. Station supplies and expenses.....	279	93
379. Yard switch and signal tenders.....	13	87
380. Yard enginemen.....	254	43
382. Fuel for yard locomotives.....	337	92
388. Enginehouse expenses—yard.....	150	17
392. Train enginemen.....	5,311	33
394. Fuel for train locomotives.....	7,240	53
397. Water for train locomotives.....	757	58
398. Lubricants for train locomotives.....	21	85
399. Other supplies for train locomotives.....	63	19
400. Enginehouse expenses—train.....	2,814	96
401. Trainmen.....	6,725	77
402. Train supplies and expenses.....	119	58
406. Drawbridge operation.....	57	00
407. Telegraph and telephone operation.....	19	26
410. Stationery and printing.....	478	25
414. Insurance.....	0	30
415. Clearing wrecks.....	13	54
417. Damage to live stock on right-of-way.....	131	70
418. Loss and damage—freight.....	168	57
	28,904	26

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—General Expenses—Year ended March 31, 1916.

	\$	cts.
No. 451. Salaries and expenses of general officers.....	119	67
452. Salaries and expenses of clerks and attendants.....	304	50
457. Pensions.....	230	33
458. Stationery and printing.....	85	71
460. Other expenses.....	3	60
	743	81

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—General Balance—Year ended March 31, 1916.

DR.	\$	cts.	CR.	\$	cts.
To general stores.....	3,680	10	By Dominion of Canada.....	1,956	54
Auditors suspense.....	41	52	Freight in transit.....	36	06
Cash in transit.....	12	15	Rail renewal Account.....	2,083	04
Station agents.....	144	43	By Individuals and Companies' Ledger—		
Rail Loan Account.....	153	47	Sackville Freestone Co.....	14	89
To Individuals and Companies ledger—					
O'Brien, Doheny & Co.....	9	21			
Department Militia & Defence.....	3	67			
	12	88			
To Traffic Ledger—					
Department Militia & Defence.....	45	98			
	4,090	53		4,090	53

S. L. SHANNON,

E. & O. E., MONCTON, N. B.

Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statement of Cash Received, Year ended March 31, 1916.

DR.	\$	cts.	CR.	\$	cts.
To Balance on hand, April 1, 1915.....	Nil.		By amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1916.....	98,738	25
Station agents.....	\$54,670	82			
Traffic ledger.....	4,452	82			
Individuals and Companies ledger.....	39,614	61			
	98,738	25			
	98,738	25		98,738	25

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

7 GEORGE V, A. 1917

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Store Account, Year ended
March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.
To balance, March 31, 1915.....	6,011 45	By issues during year ended Mar. 31, 1916.....	\$54,172 27
Purchases.....	57,684 15	Sales, old materials....	5,844 56
Charges from other departments....	1 33	Balance—road stock store.....	60,016 83
			3,680 10
	63,696 93		63,696 93

C. F. BURNS,
Auditor of Disbursements.

S. L. SHANNON,
Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statement of Averages,
Year ended March 31, 1916.

Mileage of railway.....	35.35
Total engine mileage.....	57,176
Total train mileage.....	42,439
Total car mileage.....	275,016
Ratio of earnings to gross earnings—	
Revenue from transportation.....	Per cent 92.62
“ “ incidentals.....	“ 0.38
Gross earnings per mile of railway.....	Dollars. 1,426.14
“ “ engine mile.....	“ 0.88
“ “ train mile.....	“ 1.19
“ “ car mile.....	Cents. 18.33
Ratio of expenses to gross earnings—	
Maintenance of way and structures.....	Per cent 81.24
Maintenance of equipment.....	“ 11.55
Traffic expenses.....	“ 0.83
Transportation rail line.....	“ 57.33
General expenses.....	“ 1.48
Expenses per train mile—	
Maintenance of way and structures.....	Cents. 96.50
Maintenance of equipment.....	“ 13.72
Traffic expenses.....	“ 0.99
Transportation rail line.....	“ 68.11
General expenses.....	“ 1.75
	181.07
Expenses per mile of railway—	
Maintenance of way and structures.....	Dollars. 1,158.57
Maintenance of equipment.....	“ 164.70
Traffic expenses.....	“ 11.85
Transportation rail line.....	“ 817.66
General expenses.....	“ 21.04
	2,173.82
Locomotive and car repairs, per locomotive and car—	
Locomotives, 3.....	Dollars. 1,373.57
Passenger cars, 3.....	“ 122.34
Freight cars, 35.....	“ 36.61

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statement of Receipts.

Month.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total.	Less Rental.	Total Revenue.
1915.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April.....	1,046 20	1,701 24	1,055 52	3,802 96	315 25	3,487 71
May.....	740 60	2,774 59	106 15	3,621 34	357 90	3,263 44
June.....	752 35	4,191 00	127 48	5,070 83	397 65	4,673 18
July.....	1,326 65	5,906 05	198 22	7,430 92	514 50	6,916 42
August.....	1,106 25	7,000 75	95 78	8,202 78	495 40	7,707 38
September.....	875 09	5,595 23	143 59	6,613 91	400 74	6,213 17
October.....	737 87	4,791 48	128 47	5,657 82	329 25	5,328 57
November.....	688 04	3,281 26	105 78	4,075 08	606 90	3,468 18
December.....	1,013 69	1,792 66	690 02	3,496 37	385 95	3,110 42
1916.						
January.....	704 78	1,915 43	173 07	2,793 28	431 45	2,361 83
February.....	660 69	1,309 83	90 97	2,061 49	405 85	1,655 64
March.....	752 35	1,437 08	345 52	2,534 95	306 55	2,228 40
1915-16.....	10,404 56	41,696 60	3,260 57	55,361 73	4,947 39	50,414 34
1914-15*.....	6,789 70	25,687 54	4,479 21	36,956 45	11,536 64	25,419 81

* From August, 1914, to March, 1915.

W. H. ESTANO,
*Auditor of Traffic.*S. L. SHANNON,
Comptroller and Treasurer.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Freight Statement.

Month.	Local.		Through.		Total.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915.						
April.....	1,278	18,648	606	12,274	1,884	30,922
May.....	2,022	43,305	2,068	32,128	4,090	75,433
June.....	6,696	183,265	957	17,641	7,653	200,906
July.....	9,789	294,583	1,299	27,175	11,088	321,758
August.....	11,163	316,235	2,882	46,104	14,045	362,339
September.....	8,304	236,318	2,292	63,308	10,596	299,626
October.....	7,136	189,729	2,001	28,864	9,137	218,593
November.....	1,472	35,229	4,377	64,299	5,849	99,528
December.....	1,185	18,830	1,568	24,201	2,753	43,031
1916.						
January.....	407	5,633	3,115	50,819	3,522	56,452
February.....	296	4,844	1,833	27,447	2,129	32,291
March.....	324	5,863	1,866	27,773	2,190	33,636
1915-1916.....	50,072	1,352,482	24,864	422,033	74,936	1,774,515
1914-15*.....					51,712	1,213,673

* From August, 1914 to March, 1915.

W. H. ESTANO,
*Auditor of Traffic.*S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Passenger Statement.

Month.	Local.		Through.		Total.	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915.						
April.....	2,089	33,622	252	8,316	2,341	41,938
May.....	1,432	23,798	122	2,600	1,554	26,398
June.....	1,261	19,172	142	2,909	1,403	22,081
July.....	2,179	42,938	224	4,519	2,403	47,457
August.....	1,598	25,953	594	18,536	2,192	44,489
September.....	1,232	20,208	639	20,200	1,871	40,408
October.....	1,348	22,608	193	4,068	1,541	26,676
November.....	1,141	19,688	221	4,330	1,362	24,018
December.....	1,776	28,215	521	11,515	2,297	39,730
1916.						
January.....	1,172	20,700	298	6,124	1,470	26,824
February.....	1,065	16,439	274	7,001	1,339	23,440
March.....	1,130	17,895	361	7,268	1,491	25,163
1915-16.....	17,423	291,236	3,841	97,386	21,264	388,622
1914-15*					14,509	266,911

* From August, 1914 to March, 1915.

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statement of principal Revenue-producing freight commodities carried over the New Brunswick and Prince Edward Island Railway in 1914-15 and 1915-16.

Description.	*1915.	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	199	242
Flour.....	626	748
Other mill products.....	104	192
Hay.....	2,110	4,336
Tobacco.....	4	10
Cotton.....	1	
Potatoes.....	1,093	1,721
Vegetables.....	19	26
Other products of agriculture.....	12	37
Products of Animals—		
Horses and hogs.....	35	81
Sheep and cattle.....	201	98
Lambs.....	1	
Dressed meats.....	12	52
Poultry and game.....	16	40
Hides and leather.....	3	5
Wool.....	2	6
Fish.....	955	756
Other products of animals.....	12	17
Packing house products.....	84	18
Products of mines—		
Coal.....	1,459	3,884
Sand, stone, etc.....	29,900	37,465
Salt.....	278	117
Phosphate.....	156	556
Other products of mines.....	28	1,032
Products of Forests—		
Lumber.....	8,395	12,330
Cordwood.....	296	322
Shingles.....	135	62
Other forest products.....	458	2,491
Manufactures—		
Oils.....	126	267
Sugar.....	4	22
Iron and steel rails.....	12	1
Iron, pig and bloom.....	16	
Wire rods.....	5	10
Other castings and machinery.....	53	366
Bar and sheet metals.....	21	34
Brick, lime and cement.....	14	255
Agricultural implements.....	15	16
Wagons, carriages, and tools.....	28	9
Wines, liquors and beers.....	4	23
Household goods and furniture.....	40	83
Manufactured goods.....	441	2,400
Miscellaneous.....	4,339	4,806
Total.....	51,712	74,936

*Eight months ending March 31, 1915.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Capital Account, Year ended
March 31, 1916.

DR.		\$ cts.	CR.		\$ cts.
1915. Mar. 31	To Cost of International Rail- way to date.....	1,300 00	1915. Mar. 31	By Dominion of Canada.....	1,300 00
1916. Mar. 31	" Bring line up to Intercolonial Branch Line Standard....	2,637 47	1916. Mar. 31	" Dominion of Canada.....	2,637 47
		3,937 47			3,937 47

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
*Comptroller and Treasurer.*INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Statutory Vote, 5 Geo. V, cap. 16,
12 months ended March 31, 1916.

DR.		\$ cts.	CR.		\$ cts.
1916. March 31	To rental of International Rail- way of New Brunswick from 1st February, 1915, to 31st January, 1916.....	90,000 00	1916. March 31	By Dominion of Canada.....	90,000 00
		90,000 00			90,000 00

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
*Comptroller and Treasurer.*INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Revenue Account, Year ended
March 31, 1916.

Expenditure.	\$ cts.	Earnings.	cts.
Maintenance of way and structures.....	62,103 92	Freight.....	68,643 57
Maintenance of equipment.....	10,311 47	Passenger.....	41,067 41
Traffic.....	1,265 45	Mails and express.....	2,032 38
Transportation—rail line.....	40,475 45		111,743 36
General.....	2,495 09	LESS—	
		Miscellaneous.....	7,119 87
			104,623 49
		Balance.....	12,027 89
	116,651 38		116,651 38

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Maintenance of Way and Structures,
Year ended March 31, 1916.

	\$	cts.
No. 201 Superintendence.....	1,866	78
202 Roadway maintenance.....	13,233	79
208 Bridges, trestles and culverts.....	2,374	99
212 Ties.....	17,581	48
214 Rails.....	1,348	20
216 Other track material.....	2,576	61
218 Ballast.....	805	83
220 Track laying and surfacing.....	14,962	23
221 Right of way fences.....	22	10
223 Snow and sand fences and snowsheds.....	5	80
225 Crossings and signs.....	36	61
227 Station and office buildings.....	114	19
229 Roadway buildings.....	1	17
231 Water stations.....	273	59
235 Shops and enginehouses.....	57	75
247 Telegraph and telephone lines.....	953	17
249 Signals and interlockers.....	13	35
269 Roadway machines.....	53	34
271 Small tools and supplies.....	588	76
272 Removing snow, ice and sand.....	4,533	51
276 Stationery and printing.....	65	60
277 Other expenses.....	35	07
278 Maintaining joint tracks, yards and other facilities. Dr.....	600	00
	62,103	92

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Maintenance of Equipment, Year
ended 31st March, 1916.

	\$	cts.
No. 301 Superintendence.....	79	92
308 Steam locomotives—repairs.....	4,876	41
314 Freight train cars—repairs.....	3,378	18
317 Passenger train cars—repairs.....	1,952	37
326 Work equipment—repairs.....	24	59
	10,311	47

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

INTERNATIONAL RAILWAY of New Brunswick—Traffic Expenses, Year ended
March 31, 1916.

	\$ cts.
No. 351. Superintendence.....	360 00
352. Outside agencies.....	7 12
353. Advertising.....	591 62
358. Stationery and printing.....	306 71
	<hr/> 1,265 45

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

*Comptroller and Treasurer.*INTERNATIONAL RAILWAY of New Brunswick—Transportation—Rail Line, Year ended
March 31, 1916.

	\$ cts.
No. 371. Superintendence.....	142 24
373. Station employees.....	3,987 68
376. Station supplies and expenses.....	269 37
379. Yard switch and signal tenders.....	3 12
382. Fuel for yard locomotives.....	73 45
386. Lubricants for yard locomotives.....	20 93
387. Other supplies for yard locomotives.....	0 66
388. Enginehouse expenses—yard.....	66 50
389. Yard supplies and expenses.....	7 09
390. Operating joint yards and terminals. Dr.....	1,848 50
392. Train Enginemen.....	5,914 00
394. Fuel for train locomotives.....	15,852 52
397. Water for train locomotives.....	114 68
398. Lubricants for train locomotives.....	287 79
399. Other supplies for train locomotives.....	34 67
400. Enginehouse expenses—train.....	1,704 69
401. Trainmen.....	8,274 93
402. Train supplies and expenses.....	847 19
407. Telegraph and telephone operation.....	1 60
410. Stationery and printing.....	465 43
414. Insurance.....	2 00
415. Clearing wrecks.....	456 28
416. Damage to property.....	8 50
417. Damage to live stock on right-of-way.....	21 50
418. Loss and damages—freight.....	78 63
391. Operating joint yards and terminals. Cr.....	8 50
	<hr/> 40,475 45

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY of New Brunswick.—General Expenses, Year ended
March 31, 1916.

	\$	cts.
No. 451. Salaries and expenses of general officers.....	350	00
452. Salaries and expenses of clerks and attendants.....	1,491	96
457. Pensions.....	520	87
458. Stationery and printing.....	115	46
460. Other expenses.....	16	80
	2,495	09

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

*Comptroller and Treasurer.*INTERNATIONAL RAILWAY of New Brunswick.—General Balance, Year ended
March 31, 1916.

DR.	\$	cts.	CR.	\$	cts.
To General stores.....	15,788	89	By Dominion of Canada.....	1,185	94
Auditor's suspense.....	657	85	Expenditure for road and equip-		
Station agents.....	1,905	33	ment—suspense: stores.....	18,672	95
To Individuals and Companies			Freight in transit.....	11	84
Ledger—			By Individuals and Companies		
Bangor & Aroostook Ry....\$69.58			Ledger—		
Transcontinental Ry.....44.44			A. E. Hammond.....\$593.97		
Richards Manufacturing Co.163.85			Tobie St. Glais.....15 00		
D. A. Stewart.....10.50				608	97
Sumner Co.....10.00					
St. John & Quebec Ry.Co.1,827.02					
	2,125	39			
To Traffic Ledger—					
Department Militia & Defence.....	2	24			
	20,479	70			
				20,479	70

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

7 GEORGE V, A. 1917

INTERNATIONAL RAILWAY of New Brunswick.—Store Account, Year ended March 31, 1916.

DR.	\$ cts.	CR.	\$ cts.
To Balance, March 31, 1915.....	5,574 10	By issues during year ended March 31, 1916.....	\$22,691 00
Purchases.....	33,015 25	Sales of material.....	109 46
		Balance—	
		Road stock store.....	15,788 89
	38,589 35		38,589 35

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

Comptroller and Treasurer.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Statement of Cash Received, Year ended March 31, 1916.

DR.	\$ cts.	CR.	\$ cts.
To balance on hand April 1, 1916.	Nil.	By amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1916.....	117,812 75
Amounts received during the year and credited as follows—			
Station agents.....	\$81,319 23		
Traffic ledger.....	31,726 10		
Individuals and Companies ledger.....	4,504 17		
Car Service ledger.....	263 25		
	117,812 75		
	117,812 75		117,812 75

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Statement of Averages, Year ended March 31, 1916.

Mileage of railway		112
Total engine mileage		76,404
Total train mileage		72,500
Total car mileage		507,469
Ratio of earnings to gross earnings—		
Revenue from transportation	Per cent	99.48
Revenue from incidentals	"	0.52
Gross earnings per mile of railway	Dollars	934.14
" engine mile	"	1.37
" train mile	"	1.44
" car mile	Cents	20.62
Ratio of expenses to gross earnings—		
Maintenance of way and structures	Per cent	59.36
Maintenance of equipment	"	9.86
Traffic expenses	"	1.21
Transportation expenses	"	38.69
General expenses	"	2.38
Expenses per train mile—		
Maintenance of way and structures	Cents	85.66
Maintenance of equipment	"	14.22
Traffic expenses	"	1.75
Transportation rail line	"	55.83
General expenses	"	3.44
Total per train mile		160.90
Expenses per mile of railway—		
Maintenance of way and structures	Dollars	554.50
Maintenance of equipment	"	92.06
Traffic expenses	"	11.30
Transportation rail line	"	361.39
General expenses	"	22.28
Total	\$	1,041.53
Locomotive and car repairs, per locomotive and car—		
Locomotives, 4		1,219.10
Passenger cars, 10		195.24
Freight cars, 162		20.85

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Statement of Receipts.

Date.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total.	Less Rental.	Total Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1915—						
April.....	5,253 40	6,171 87	133 19	11,558 46	875 50	10,682 96
May.....	3,395 34	5,950 24	205 54	9,551 12	823 80	8,727 32
June.....	2,636 13	5,752 46	343 02	8,731 61	995 20	7,736 41
July.....	2,917 12	6,720 65	229 95	9,867 72	802 55	9,065 17
August.....	2,739 93	4,948 63	161 52	7,850 08	773 45	7,076 63
September.....	2,899 95	3,241 98	176 41	6,318 34	376 00	5,942 34
October.....	4,055 41	4,565 82	162 52	8,783 75	315 15	8,467 60
November.....	3,745 32	5,788 95	133 93	9,668 20	47 15	9,621 05
December.....	4,135 92	4,179 88	238 18	8,553 98	493 50	8,060 48
1916—						
January.....	3,265 04	6,664 19	219 26	10,148 49	475 20	9,673 29
February.....	2,658 15	7,496 12	256 50	10,410 77	674 40	9,736 37
March.....	3,365 70	7,162 78	221 54	10,750 02	916 15	9,833 87
1915-16.....	41,067 41	68,643 57	2,481 56	112,192 54	7,569 05	104,623 49
*1914-15.....	28,317 20	42,707 14	1,537 57	72,561 91	7,092 99	65,468 92

*From August, 1914 to March, 1915.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Freight Statement.

Month.	Local.		Through.		Total.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915—						
April.....	5,297	223,241	504	32,587	5,801	255,828
May.....	6,579	231,260	100	5,946	6,679	237,206
June.....	7,419	222,015	295	13,177	7,714	235,192
July.....	9,555	297,386	15	1,697	9,570	299,083
August.....	6,465	245,582	26	2,206	6,491	247,788
September.....	2,765	137,782	264	17,494	3,029	155,276
October.....	3,381	141,365	412	28,244	3,793	169,609
November.....	4,130	179,081	460	35,697	4,590	214,778
December.....	2,751	129,496	1,137	49,826	3,888	179,322
1916—						
January.....	4,810	135,437	1,754	63,133	6,564	198,570
February.....	10,489	304,707	793	34,121	11,282	338,828
March.....	10,021	373,148	1,348	49,891	11,369	423,039
1915-16.....	73,662	2,620,500	7,108	334,019	80,770	2,954,519
1914-15.....	From August 1914 to March, 1915.....				32,374	1,562,724

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Passenger Statement.

Month.	Local.		Through.		Total.	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915—						
April.....	4,340	177,873	15	743	4,355	178,616
May.....	3,130	125,575	15	1,175	3,145	126,750
June.....	2,118	78,455	15	1,024	2,133	79,479
July.....	2,490	85,596	83	8,553	2,573	94,149
August.....	2,301	87,746	43	2,833	2,344	90,579
September.....	2,373	96,084	37	2,461	2,410	98,545
October.....	3,475	136,253	35	1,934	3,510	138,187
November.....	3,518	131,000	35	2,084	3,553	133,084
December.....	3,468	145,020	43	2,668	3,511	147,688
1916—						
January.....	2,804	114,821	36	2,834	2,840	117,655
February.....	2,516	91,821	20	1,004	2,536	92,825
March.....	3,003	130,676	37	2,264	3,040	132,940
1915-16.....	35,536	1,400,920	414	29,577	35,950	1,430,497
1914-15.....	From August, 1914 to March, 1915.....				24,286	991,282

W. H. ESTANO,

Auditor of Traffic

S. L. SHANNON,

Comptroller and Treasurer.

7 GEORGE V, A. 1917

INTERNATIONAL RAILWAY OF NEW BRUNSWICK—Comparative Statement of Principal
Revenue-producing freight carried over the International Railway.

	*1914-15.	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	810	740
Flour.....	214	370
Other mill products.....	502	43
Hay.....	1,665	4,837
Tobacco.....	7	5
Potatoes.....	426	203
Fruit and vegetables.....	170	22
Other products of agriculture.....	2	29
Products of Animals—		
Horses and hogs.....	717	444
Sheep and cattle.....	248	320
Dressed meats.....	128	246
Fish.....	30	18
Oysters and clams.....	4	2
Other products of animals.....	2	4
Packing house products.....	55	39
Products of Mines—		
Coal.....	1,219	1,479
Sand and stone.....	53	9
Slate and granite.....	26	81
Products of Forests—		
Lumber.....	6,795	6,892
Cordwood.....	222	445
Pulpwood.....	4,724	5,953
Shingles.....	3,484	3,753
Other forest Products.....	2,760	38,228
Manufactures—		
Oils and petroleum.....	60	58
Sugar.....	4	10
Iron and steel rails.....	3	20
Iron, pig and bloom.....	18	80
Wire rods.....	1	1
Castings and machinery.....	863	113
Brick, lime and cement.....	13	117
Agricultural implements.....	5	51
Wagons, carriages and tools.....	428	48
Wines, liquors and beers.....	5	32
Household goods and furniture.....	180	1,136
Manufactures.....	372	4,510
Miscellaneous.....	6,079	10,432
Total.....	32,374	80,770

*Eight months ending March 31, 1915.

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Capital Account, Year ended March 31, 1916.

1915.	\$	cts.	1915.	\$	cts.
Mar. 31. To cost of Prince Edward Island Ry. to date.....	9,490,899	71	Mar. 31. By Dominion of Canada..	9,490,899	71
1916.			1916.		
Mar. 31. Car ferry, etc...1,322,593 34					
Strengthen bridges....	6,398	85			
Power plants...	125	00			
Surveys and inspections.....	10,197	61			
Increased accommodation and facilities along the line.	11,127	24			
Original construction.....	30	69			
	1,350,472	73	Mar. 31. By Dominion of Canada..	1,350,472	73
	10,841,372	44		10,841,372	44

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Revenue Account, Year ended March 31, 1916.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures...	144,865	30	Passenger.....	181,518	96
Maintenance of equipment.....	85,304	79	Freight.....	174,454	52
Traffic.....	10,686	59	Mails and express.....	21,937	03
Transportation—rail line.....	286,068	70	Miscellaneous.....	13,016	31
General.....	18,095	24		390,926	82
	545,020	62	Balance.....	154,093	80
				545,020	62

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Way and Structures, Year ended
March 31, 1916.

	\$	cts.
No. 201. Superintendence.....	12,026	97
202. Roadway maintenance.....	51,577	99
208. Bridges, trestles, and culverts.....	1,102	63
212. Ties.....	17,667	20
214. Rails.....	2,086	54
216. Other track material.....	4,010	43
218. Ballast.....	2,054	81
220. Track laying and surfacing.....	17,367	88
221. Right of way fences.....	7,836	41
223. Snow and sand fences and snowsheds.....	1,156	66
225. Crossings and signs.....	524	53
227. Station and office buildings.....	8,220	72
229. Roadway buildings.....	92	94
231. Water stations.....	1,050	10
233. Fuel stations.....	562	33
235. Shops and enginehouses.....	1,267	63
241. Wharves and docks.....	2,685	73
247. Telegraph and telephone lines.....	411	45
249. Signals and interlockers.....	150	85
269. Roadway machines.....	805	07
271. Small tools and supplies.....	2,751	98
272. Removing snow, ice, and sand.....	9,039	08
274. Injuries to persons.....	7	20
276. Stationery and printing.....	407	97
	144,865	30

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Equipment, Year ended
March 31, 1916.

	\$	cts.
No. 301. Superintendence.....	7,660	95
302. Shop machinery.....	3,027	49
304. Power plant machinery.....	0	50
308. Steam locomotives—repairs.....	34,790	31
314. Freight train cars—repairs.....	19,355	76
317. Passenger train cars—repairs.....	17,828	38
323. Floating equipment—repairs.....	212	65
326. Work equipment—repairs.....	1,883	12
334. Stationery and printing.....	440	88
335. Other expenses.....	104	75
	85,304	79

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Traffic Expenses, Year ended March 31, 1916.

	\$	cts.
No. 351. Superintendence.....	2,691	80
352. Outside agencies.....	5,442	01
353. Advertising.....	2,170	52
354. Stationery and printing.....	382	26
	10,686	59

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Transportation, Rail Line, Year ended
March 31, 1916.

	\$	cts.
No. 371. Superintendence.....	4,713	02
372. Despatching trains.....	5,203	08
373. Station employees.....	72,571	78
376. Station supplies and expenses.....	8,089	74
377. Yardmasters and yard clerks.....	3,193	52
378. Yard conductors and brakemen.....	4,667	46
379. Yard switch and signal tenders.....	168	74
380. Yard enginemen.....	6,890	21
382. Fuel for yard locomotives.....	5,299	56
385. Water for yard locomotives.....	224	71
386. Lubricants for yard locomotives.....	126	22
387. Other supplies for yard locomotives.....	75	92
388. Enginehouse expenses—yard.....	222	77
389. Yard supplies and expenses.....	88	54
392. Train enginemen.....	32,211	16
394. Fuel for train locomotives.....	58,735	12
397. Water for train locomotives.....	2,019	55
398. Lubricants for train locomotives.....	1,400	27
399. Other supplies for train locomotives.....	957	03
400. Enginehouse expenses—train.....	10,330	92
401. Trainmen.....	48,391	29
402. Train supplies and expenses.....	10,030	16
404. Signal and interlocker operation.....	88	74
405. Crossing protection.....	639	18
406. Drawbridge operation.....	674	97
407. Telegraph and telephone operation.....	242	44
408. Operating floating equipment.....	502	98
410. Stationery and printing.....	6,489	37
415. Clearing wrecks.....	473	50
416. Damage to property.....	451	28
417. Damage to live stock on right of way.....	52	00
418. Loss and damage—freight.....	844	52
420. Injuries to persons.....	0	20
414. Insurance.....	1	25
	286,068	70

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

PRINCE EDWARD ISLAND RAILWAY—General Expenses, Year ended March 31, 1916.

	\$	cts.
No. 451 Salaries and expenses of general officers.....	4,771	90
452 Salaries and expenses of clerks and attendants.....	6,712	34
453 General office supplies and expenses.....	25	35
454 Law expenses.....	487	94
456 Relief department expenses.....	600	00
457 Pensions.....	5,126	11
458 Stationery and printing.....	284	89
460 Other expenses.....	86	71
	18,095	24

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

PRINCE EDWARD ISLAND RAILWAY—General Balance, Year ended March 31, 1916.

Dr.	\$	cts.	Cr.	\$	cts.
To General stores.....	54,045	50	By Dominion of Canada.....	71,598	05
Station agents.....	2,524	30	Unclaimed wages.....	50	71
Cash in transit.....	110	00	Freight in transit.....	51	38
Auditors suspense.....	136	47	By Individuals and companies ledger:		
To Individuals and Companies ledger:			Canadian Express Co.....	5	27
Post Office Department, 11,723 25			John Simon.....	215	40
Province of Prince Edward			Buntain, Bell & Co.....	404	75
Island.....	3	15	J. J. Hughes & J. M. Clark.....	15	00
Canada Steamship Lines.....	1	05		640	42
Eastern Car Co.....	975	16	By Traffic ledger:—		
Charlottetown Steam			SS. Prince Edward Island.....	436	52
Navigation Co.....	0	36			
Dept. Marine & Fisheries	16	00			
Murray Harbour Branch					
telegraph earnings.....	5	69			
J. A. Hackett.....	12	60			
Canada Atlantic & Plant					
Steamship Co.....	9	65			
Dept. Railways and Can-					
als.....	367	82			
Pittsburgh and Lake					
Erie Ry.....	3	87			
Anglo-American Tele-					
graph Co.....	957	35			
	14,075	95			
To Traffic ledger:—					
Department Militia and Defence...	1,826	11			
To Individuals and Companies ledger:					
Cash sales.....	0	92			
To Rents Ledger:—					
S. Kennedy.....	\$ 1	00			
McLean Brothers.....	1	00			
R. Ellis.....	2	00			
Wm. McLean.....	1	00			
Haywood & Campbell.....	2	00			
Sydney Gray.....	45	83			
D. D. Campbell.....	5	00			
	57	83			
	72,777	08			
				72,777	08

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY—General Stores Account, Year ended March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.
To Balance March 31, 1915.....	62,695 61	By issues during year ended March 31, 1916.....	\$161,354 13
Purchases during year ended March 31, 1916.....	\$136,897 77	Sales of material, fuel, etc.....	7,115 68
Charges from other de- partments.....	17,659 71		
Labour.....	2,577 04	Balance—	
Staff pay rolls.....	2,685 18	Ordinary stores in- cluding fuel.....	35,595 04
	159,819 70	Road stock stores.....	18,450 46
			54,045 50
	222,515 31		222,515 31

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

*Comptroller and Treasurer.*PRINCE EDWARD ISLAND RAILWAY—Statement of Cash Received, Year ended
March 31, 1916.

Dr.	\$ cts.	Cr.	\$ cts.
To Balance on hand April 1, 1915.....	Nil.	By Amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1916.....	509,312 34
Station agents.....	439,906 80		
Traffic ledger.....	16,779 33		
Individuals and Com- panies ledger.....	51,426 85		
Rents ledger.....	1,087 46		
General ledger.....	111 90		
	509,312 34		
	509,312 34		509,312 34

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

PRINCE EDWARD ISLAND RAILWAY.—Statement of Averages, Year ending
March 31, 1916.

Mileage of railway.....		274.9
Total engine mileage.....		455,503
Total train mileage.....		367,614
Total car mileage.....		2,280,639
Ratio of earnings to gross earnings—		
Revenue from transportation.....	Per cent.	99.57
Revenue from incidentals.....	"	0.43
Gross earnings per mile of railway.....	Dollars.	1,422.07
" " engine mile.....	"	0.86
" " train mile.....	"	1.06
" " car mile.....	Cents.	17.14
Ratio of expenses to gross earnings—		
Maintenance of way and structures.....	Per cent.	37.06
Maintenance of equipment.....	"	21.82
Traffic expenses.....	"	2.73
Transportation expenses.....	"	73.18
General expenses.....	"	4.63
Expenses per train mile—		
Maintenance of way and structures.....	Cents.	39.41
Maintenance of equipment.....	"	23.20
Traffic expenses.....	"	2.91
Transportation expenses.....	"	77.82
General expenses.....	"	4.92
Total per train mile.....		148.26
Expenses per mile of railway—		
Maintenance of way and structures.....	Dollars.	526.97
Maintenance of equipment.....	"	310.31
Traffic expenses.....	"	38.87
Transportation expenses.....	"	1,040.63
General expenses.....	"	65.83
		\$1,982.61
Locomotive and car repairs, per locomotive and car—		
Locomotives, 31.....		\$1,112 27
Passenger cars, 59.....		302 18
Freight cars, 530.....		36 52

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Statement of Receipts.

Month.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total Revenue.
1915.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April.....	12,122 16	13,853 07	Plus 3,059 74	29,034 97
May.....	11,728 54	19,717 59	" 2,083 47	33,529 60
June.....	12,526 64	18,721 32	" 2,478 04	33,726 00
July.....	23,133 28	18,974 96	" 7,106 48	49,214 72
August.....	18,599 35	14,254 64	" 2,680 85	35,534 84
September.....	19,871 98	15,497 66	" 2,492 84	37,862 48
October.....	16,115 60	17,125 08	" 2,398 87	35,639 55
November.....	14,114 81	21,581 19	" 2,470 27	38,166 27
December.....	16,310 51	15,299 92	" 7,602 24	39,212 67
1916.				
January.....	11,136 32	8,042 04	" 3,158 66	22,337 02
February.....	9,013 14	8,718 25	" 2,913 58	20,644 97
March.....	9,782 19	9,733 24	Less 3,491 70	16,023 73
1915-16.....	174,454 52	181,518 96	Plus 34,953 34	390,926 82
1914-15.....	187,622 15	184,416 25	Plus 43,457 04	415,495 44

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

PRINCE EDWARD ISLAND RAILWAY.—Passenger Statement.

Month.	Local.		Through.		Total	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915.						
April.....	28,984	635,788	221	10,994	29,205	646,782
May.....	28,285	571,526	758	36,494	29,043	608,020
June.....	26,773	603,420	1,414	67,030	28,187	670,450
July.....	48,724	1,253,486	2,183	102,962	50,907	1,356,448
August.....	39,365	879,481	2,618	121,039	41,983	1,000,520
September.....	39,018	1,159,223	3,227	158,159	42,245	1,317,382
October.....	33,579	756,085	2,789	136,292	36,368	892,377
November.....	39,297	672,077	1,692	84,801	40,989	756,878
December.....	42,026	855,157	1,457	67,019	43,483	922,176
1916.						
January.....	26,490	601,118	582	28,452	27,072	629,570
February.....	20,062	484,361	105	4,939	20,167	489,300
March.....	22,772	539,670	114	5,867	22,886	545,546
1915-16.....	395,375	9,011,401	17,160	824,048	412,535	9,835,449
1914-15.....	401,831	8,998,815	21,665	979,304	423,496	9,978,119

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

PRINCE EDWARD ISLAND RAILWAY.—Freight Statement.

Month	Local.		Through.		Total	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915.						
April.....	5,800	222,600	2,038	131,802	7,838	354,402
May.....	8,457	298,965	3,440	127,277	11,897	426,242
June.....	12,095	408,437	1,118	52,359	13,213	460,796
July.....	11,905	519,491	1,031	51,483	12,936	570,974
August.....	8,842	330,687	931	43,721	9,773	374,408
September.....	6,470	273,932	810	39,989	7,280	313,921
October.....	10,741	361,019	1,740	72,473	12,481	433,492
November.....	11,335	551,654	3,807	140,900	15,142	692,554
December.....	6,654	279,870	2,473	91,273	9,127	371,143
1916.						
January.....	3,466	120,319	1,153	45,552	4,619	165,871
February.....	6,141	225,319	642	29,081	6,783	254,400
March.....	7,078	255,347	695	32,182	7,773	287,529
1915-16.....	98,984	3,847,640	19,878	858,092	118,862	4,705,732
1914-15.....	108,055	4,025,669	17,217	841,834	125,272	4,867,503

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Comparative statement of principal revenue-producing freight over the Prince Edward Island Railway, in 1914-15 and 1915-16.

	1914-15.	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	17,207	10,394
Flour.....	4,581	3,164
Other mill products.....	1,096	1,243
Hay.....	4,828	6,626
Tobacco.....	208	181
Cotton.....	130	123
Potatoes.....	6,292	7,705
Fruit and vegetables.....	580	464
Other products of agriculture.....	873	1,334
Products of Animals—		
Horses and hogs.....	1,063	986
Sheep and cattle.....	3,720	3,587
Lambs.....	484	391
Dressed meats.....	2,265	2,268
Poultry and grain.....	397	313
Hides and leather.....	786	612
Wool.....	80	96
Fish.....	2,531	2,307
Oysters and clams.....	845	774
Other products of animals.....	1,438	900
Other packing house products.....	2,316	2,295
Products of Mines—		
Coal and coke.....	12,833	14,789
Sand, stone, etc.....	5,812	4,387
Salt.....	1,234	1,640
Slate and granite.....	97	75
Phosphate.....	6	5,855
Other products of mines.....	13	47
Products of Forests—		
Lumber.....	10,362	5,890
Bark.....	81	130
Cordwood.....	3,001	1,891
Wood pulp.....	2	8
Shingles.....	656	351
Other products of forests.....	738	1,012
Manufactures—		
Petroleum and oils.....	3,801	2,550
Sugar.....	1,233	1,983
Iron and steel rails.....	463	258
Iron, pig and bloom.....	27	128
Wire rods.....	78	87
Steel billets.....	5	
Other castings and machinery.....	1,583	1,230
Bar and sheet metals.....	54	94
Brick, lime, and cement.....	2,331	1,987
Agriculture implements.....	1,170	676
Wagons, carriages and tools.....	371	419
Wines, liquors and beers.....	371	488
Naval stores.....	9	28
Household goods and furniture.....	706	962
Immigrants effects.....	40	86
Miscellaneous.....	26,475	26,048
Total.....	125,272	118,862

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—Statement of Capital Expenditures for Road and Equipment Consolidated Revenue for year ending March 31, 1916.

	Amount Expended.
	\$ cts.
1915—	
September.....	558,790 00
October.....	179,985 53
November.....	367,517 93
December.....	1,641,941 95
1916—	
January.....	44,354 63
February.....	19,213 75
March.....	368,183 97
	3,179,987 81

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

TRANSCONTINENTAL RAILWAY.—Revenue Account—Year ended March 31, 1916.

Expenditure.	\$ cts.	Earnings.	\$ cts.
Maintenance of way and structures.....	1,132,714 83	Passenger.....	473,109 61
Maintenance of equipment.....	576,821 07	Freight.....	3,776,275 90
Traffic.....	70,304 36	Mails and express.....	38,797 63
Transportation—rail line.....	2,005,086 44		
Miscellaneous operations.....	3,796 31	LESS—Miscellaneous.....	4,288,183 14
General.....operations.....	71,805 74		529,795 75
		Balance.....	3,758,387 39
			102,141 36
	3,860,528 75		3,860,528 75

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

TRANSCONTINENTAL RAILWAY.—Maintenance of Way and Structures—Year ended March 31, 1916.

	\$	cts.
No. 201. Superintendence.....	89,193	91
202. Roadway maintenance.....	195,123	84
206. Tunnels and subways.....	321	62
208. Bridges, trestles and culverts.....	39,708	18
212. Ties.....	135,199	75
214. Rails.....	29,481	27
216. Other track material.....	23,453	81
218. Ballast.....	2,354	71
220. Track laying and surfacing.....	349,293	00
221. Right of way fences.....	719	47
223. Snow and sand fences and snow sheds.....	70	56
225. Crossings and signs.....	1,161	09
227. Station and office buildings.....	14,626	00
229. Roadway buildings.....	1,446	53
231. Water stations.....	24,615	00
233. Fuel stations.....	2,673	60
235. Shops and enginehouses.....	26,489	67
241. Wharves and docks.....	1,300	32
243. Coal and ore wharves.....	18	02
247. Telegraph and telephone lines.....	10,296	89
249. Signals and interlockers.....	1,879	82
269. Roadway machines.....	5,316	14
271. Small tools and supplies.....	5,713	96
272. Removing snow, ice, and sand.....	175,242	91
274. Injuries to persons.....	143	21
276. Stationery and printing.....	2,210	22
277. Other expenses.....	1	00
278. Maintaining joint tracks, yards, and other facilities. Dr.....	2,956	73
	1,144,010	23
279. Maintaining joint tracks, yards, and other facilities. Cr.....	11,293	40
	1,132,714	83

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

TRANSCONTINENTAL RAILWAY.—Maintenance of Equipment, Year ended March 31, 1916.

	\$	cts.
No. 301. Superintendence.....	42,548	39
302. Shop Machinery.....	11,127	74
304. Power Plant machinery.....	5,962	06
308. Steam locomotives—repairs.....	294,509	73
314. Freight train cars—repairs.....	160,229	85
317. Passenger train cars—repairs.....	48,286	83
320. Motor equipment of cars—repairs.....	104	56
323. Floating equipment—repairs.....	3,209	44
326. Work equipment—repairs.....	8,757	26
332. Injuries to persons.....	340	36
333. Insurance.....	38	33
334. Stationery and printing.....	1,682	57
336. Maintaining joint equipment at terminals. Dr.....	23	95
	576,821	07

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—Traffic Expenses, Year ended March 31, 1916.

	\$	cts.
No. 351. Superintendence.....	38,974	94
352. Outside agencies.....	13,912	84
353. Advertising.....	12,854	85
354. Traffic associations.....	487	93
356. Industrial and immigration bureaus.....	675	24
357. Insurance.....	10	66
358. Stationery and printing.....	3,387	90
	70,304	36

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

TRANSCONTINENTAL RAILWAY.—Transportation, Rail Line, Year ended March 31, 1916.

	\$	cts.
No. 371. Superintendence.....	45,658	23
372. Despatching trains.....	56,548	57
373. Station employees.....	115,459	06
374. Weighing, inspection, and demurrage bureaus.....	637	07
375. Coal and ore wharves.....	502	33
376. Station supplies and expenses.....	15,168	98
377. Yardmasters and yard clerks.....	22,508	41
378. Yard conductors and brakemen.....	45,562	43
379. Yard switch and signal tenders.....	2,585	45
380. Yard enginemen.....	25,115	91
382. Fuel for yard locomotives.....	80,143	02
385. Water for yard locomotives.....	387	36
386. Lubricants for yard locomotives.....	652	55
387. Other supplies for yard locomotives.....	513	81
388. Enginehouse expenses—yard.....	22,444	53
389. Yard supplies and expenses.....	1,936	38
390. Operating joint yards and terminals. Dr.....	40,455	00
392. Train enginemen.....	244,105	12
393. Train motormen.....	16	50
394. Fuel for train locomotives.....	701,947	03
397. Water for train locomotives.....	39,816	98
398. Lubricants for train locomotives.....	10,448	75
399. Other supplies for train locomotives.....	7,581	18
400. Enginehouse expenses—train.....	138,629	34
401. Trainmen.....	276,461	41
402. Train supplies and expenses.....	49,187	06
403. Operating sleeping cars.....	1,808	16
404. Signal and interlocker operation.....	3,080	60
405. Crossing protection.....	82	19
406. Drawbridge operation.....	2,520	47
407. Telegraph and telephone operation.....	4,323	49
408. Operating floating equipment.....	31,598	37
410. Stationery and printing.....	21,566	46
411. Other expenses.....	0	70
412. Operating joint tracks and facilities. Dr.....	894	49
414. Insurance.....	748	65
415. Clearing wrecks.....	16,354	49
416. Damage to property.....	1,343	49
417. Damage to live stock on right of way.....	718	02
418. Loss and damage—freight.....	1,708	46
419. Loss and damage—baggage.....	85	40
420. Injuries to persons.....	501	27
	2,031,807	17
391. Operating joint yards and terminals. Cr.....	26,720	73
	2,005,086	44

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

TRANSCONTINENTAL RAILWAY.—Miscellaneous Operations, Year ended March 31, 1916.

	\$	cts.
No. 441. Dining and buffet service.....	3,667	06
442. Hotels and restaurants.....	129	25
	3,796	31

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

TRANSCONTINENTAL RAILWAY.—General Expenses, Year ended March 31, 1916.

	\$	cts.
No. 451. Salaries and expenses of general officers.....	7,317	23
452. Salaries and expenses of clerks and attendants.....	40,951	81
453. General office supplies and expenses.....	1,199	53
454. Law expenses.....	5,661	99
455. Insurance.....	7,725	65
457. Pensions.....	8	71
458. Stationery and printing.....	1,804	90
460. Other expenses.....	7,135	92
	71,805	74

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

TRANSCONTINENTAL RAILWAY.—Rental of Leased Lines.

	\$	cts.
Amount paid to Grand Trunk Pacific Railway for rental of Lake Superior Branch from May, 1915, to March 31, 1916, inclusive, at \$50,000 per month.....	550,000	00

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—General Balance, Year ended March 31, 1916—Continued.

Dr.	\$ cts.		Cr.	\$ cts.	
	\$	cts.		\$	cts.
To Brought forward.....	831,227	30	Brought forward.....	1,261,164	75
Missouri Pacific Ry.....		7 22			
Maine Central Ry.....		3 98			
Mussey-Harris Co.....		1 34			
Mount McKay Products Co.....	606	26			
Minneapolis & St. Louis Ry.....		9 55			
Missouri, Kansas & Texas Ry.....		6 14			
Maryland & Pennsylvania Ry.....		6 36			
McDonald & O'Brien.....	10	00			
National Transcontinental Ry. Commissioners.....	11,495	63			
New York Central Ry.....	110	66			
Northern Pyrites Mine Co.....	29	00			
Northern Pacific Ry.....	17	00			
New York, New Haven & Hartford Ry.....	46	60			
Northern Navigation Co.....	120	75			
New York, Susquehanna & Western Ry.....		1 69			
New York, Chicago & St. Louis Ry.....		2 93			
Nashville, Chattanooga & St. Louis Ry.....		6 01			
Norfolk & Western Ry.....		4 35			
New Orleans Great Northern Ry.....		0 29			
Norfolk & Southern Ry.....		2 00			
New Orleans, Texas & Mexico.....		3 77			
O'Brien, Fowler & McDougall Bros.....	309	28			
Post Office Department.....	1,784	16			
Parent Station.....	157	00			
N. M. Patterson & Co.....	10	00			
Pere Marquette Ry.....	78	89			
Pennsylvania R. Ry.....	64	65			
Pittsburg & Lake Erie Ry.....		8 78			
Peerless Tank Line.....	20	69			
Pullman Co.....	340	79			
Philadelphia & Reading Ry.....	48	05			
Pennsylvania Co.....	39	72			
Pittsburg, Cincinnati, Chicago & St. Louis Ry.....	36	24			
Pacific Fruit Express.....	2	90			
Polar Refrigerator Line.....	19	48			
Pigeon River Lumber Co.....	27	84			
Piedmont & Northern Ry.....	2	16			
Pittsburg, McKeesport & Yough Ry.....	0	12			
Quebec Central Ry.....	0	90			
Quebec & Lake St. John Ry.....	5	55			
Quebec, Montreal & Southern Ry.....	1	85			
R. S. Richardson.....	22	95			
Rock Lake Lumber Co.....	317	01			
					2,153,492 37

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Rutland R. R.	13 58		
Roberts & Schaefer Co.	276 30		
Sayre & Holly Lumber Co.	24 45		
St. Maurice Construction Co.	827 95		
Seaboard Air Line	1 31		
St. Louis & San Francisco Ry.	17 63		
Southern Pacific Ry.	25 89		
St. Lawrence Bridge Co.	400 63		
Steel Co. of Canada	13 12		
Sharp Construction Co.	2 47		
Estate Geo. Sharpe	104 76		
St. Anthony Mine	80 00		
Southern Indiana Ry.	3 29		
San Pedro, Los Angeles & Salt Lake Ry.	1 86		
Swift Refrigerator Line	0 69		
San Antonio & Arkansas Pass Ry.	1 76		
Southern Ry.	6 73		
Sandy Valley & Elkhorn Ry.	2 70		
Teniskaming & Northern Ontario Ry.	509 75		
Toronto, Hamilton & Buffalo Ry.	2 26		
Transcona Shell Co.	24,065 75		
Texas & Pacific Ry.	1 18		
Toledo, Peoria & Western Ry.	2 16		
Toledo & Ohio Central Ry.	2 04		
Transit Co.	43 14		
Van Buren Bridge Co.	18 08		
Union Pacific Ry.	5 37		
Union Terminal Co.	44 23		
Union Tank Line	1 00		
Union R. R.	1 85		
Vandalia R. R.	17 32		
Vicksburg, Shreveport & Pacific Ry.	1 53		
Western Union Telegraph Co.	44 72		
Wabash R. R.	5 34		
W. B. Wray	47 30		
Robert Wilson	27 15		
Western Terminal Elevator Co.	54 94		
Whedding & Lake Erie Ry.	2 40		
Western Shell Committee	190 25		
	874,630 18		
	102 71		
	14,161 65		
	15 50		
	65 58		
	14,242 73		
	2,135,897 04		
Carried forward.....			
2,153,492 37			

To Individuals and Companies suspense ledger—

Cash sales.....

To Traffic ledger—

Department of Militia & Defence.....

Delaware & Hudson Ry.

Grand Trunk Ry.

Carried forward.....

7 GEORGE V, A. 1917

TRANS-CONTINENTAL RAILWAY.—General Balance, Year ended March 31, 1916.—*Concluded.*

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
Brought forward.....					Brought forward.....		
To Grand Trunk Pacific Ry.....	14,242	73	2,135,897	04			
Tenniskamung & Northern Ontario Ry.....	7	50					2,153,492 37
	35	51					
To Rents ledger—			14,285	74			
G. W. Gilmore.....	10	00					
Minister of Public Works, Ottawa.....	2	00					
W. A. Cowan.....	45	00					
Wayagamack Pulp & Paper Co.....	10	00					
Neil C. Jensen.....	10	00					
Brown Corporation.....	10	00					
Belge-Canadian Pulp & Paper Co.....	10	00					
J. N. Duhamel & Sons.....	78	78					
R. Bouchard.....	10	00					
I. Cyrine D'Aigle.....	1	00					
Perie Skenerly.....	10	00					
Seaman, Kent Co., Ltd.....	100	00					
Kaministiquia Power Co.....	1	00					
Imperial Oil Co.....	528	15					
Fort William Coal Dock Co.....	482	66					
Major E. R. Wayland.....	7	00					
J. Johnson.....	1	00					
Board of School Trustees, Raith, Ont.....	2	00					
B. P. Kent.....	15	00					
Chas. Carlgren.....	10	00					
F. Edwards.....	26	80					
Crossing Lumber Co.....	15	60					
G. E. Farlinger.....	381	00					
Gregory & Cooper.....	10	00					
F. Belyea.....	10	00					
E. F. Brison.....	10	00					
F. G. Jackson.....	10	00					
Fred Hamilton.....	20	00					
G. E. Farlinger.....	30	00					
M. McKinnon.....	20	00					
J. H. Atkinson and H. H. Cooper.....	10	00					
J. H. Skellan.....	10	00					
W. Bonin.....	40	00					
W. Scroggie.....	10	00					
J. E. Lambert.....	10	00					
A. Keefe.....	20	00					
J. H. Johnson.....	10	00					
Leonidas Boisvert.....	1	00					
Kaministiquia Power Co.....	1	00					

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Mount McKay Products Co.	10 00		
Rock Lake Lumber Co.	110 00		
Northern Pyrites Co.	25 00		
Pierre Bluff.	10 00		
Allan Line Steamship Co.	165 00		
To advances—		2,308 99	
George Ackman.		1,000 00	
		2,153,492 37	

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

TRANSCONTINENTAL RAILWAY.—General Stores Account, Year ended March 31, 1916.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
To balance, March 31, 1915.....					By issues during year ended March 31, 1916	1,186,266 00	
Purchases during year ended March 31, 1916....	1,081,537 87		65,183 55		Sales of material, fuel, etc.....	384,582 92	
Charges from other departments.....	331,533 23						1,570,848 92
Labour.....	4,518 92				BALANCE—		
Staff pay-rolls.....	6,925 59		2,024,515 61		Ordinary stores, including fuel.....	462,948 92	
					Roadway and bridge material.....	55,901 32	
			2,089,699 16				518,850 24
							2,089,699 16

S. L. SHANNON,

Comptroller and Treasurer.

C. F. BURNS,

Auditor of Disbursements.

TRANSCONTINENTAL RAILWAY.—Statement of Cash received, Year ended March 31, 1916.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
To balance on hand April 1, 1915.....					By amounts deposited to the credit of the Honourable Receiver		
Amounts received during the year and credited as follows:—			Nil.		General of Canada during the year ended March 31, 1916..	6,753,579 27	
Station agents.....	5,328,913 25						
Traffic ledger.....	612,917 24						
Individuals and companies ledger.....	237,985 78						
Car service ledger.....							
Rents ledger.....	1,078 00						
General ledger.....	572,685 00		6,753,579 27				
							6,753,579 27

E. & O. E. MONKTON, N.B.

S. L. SHANNON,

Comptroller and Treasurer.

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TRANSCONTINENTAL RAILWAY.—Statement of Averages, Year ended March 31, 1916.

Mileage of railway.....	2,009.12
Engine mileage.....	2,711,429
Total train mileage.....	2,286,109
Total car mileage.....	47,679,538
Ratio of earnings to gross earnings—	
Revenue from transportation..... Per cent.	98.26
Revenue from incidentals.....	1.74
Gross earnings per mile of railway..... Dollars.	1,870.66
“ “ engine mile..... “	1.39
“ “ train mile..... “	1.64
“ “ car mile..... Cents.	7.88
Ratio of expenses to gross earnings—	
Maintenance of way and structures..... Per cent.	30.14
Maintenance of equipment..... “	15.25
Traffic expenses..... “	1.87
Transportation rail line..... “	53.34
Miscellaneous operations..... “	0.11
General expenses..... “	1.91
Expenses per train mile—	
Maintenance of way and structures..... Cents.	49.55
Maintenance of equipment..... “	25.23
Traffic expenses..... “	3.08
Transportation rail line..... “	87.68
Miscellaneous operations..... “	0.19
General expenses..... “	3.14
	168.87
Expenses per mile of railway—	
Maintenance of way and structures..... Dollars.	563.79
Maintenance of equipment..... “	287.10
Traffic expenses..... “	34.99
Transportation rail line..... “	997.74
Miscellaneous operations..... “	2.14
General expenses..... “	35.74
	\$ 1,921 50
	\$ ets.
Locomotive and car repairs, per locomotive and car—	
Locomotives, 102.....	2,922 54
Passenger cars, 56.....	860 96
Freight cars, 1,549.....	103 44

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—Statement of Receipts.

Date.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total.	Less Rental.	Total Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1915.						
April.....	4,836 99	27,912 67	62 12	32,811 78	8,974 68	23,837 10
May.....	4,349 11	23,627 88	200 25	28,177 24	5,928 00	22,249 24
*May and June.	26,464 80	209,567 75	4,411 45	240,444 00		240,444 00
June.....	13,605 65	42,040 31	471 98	56,117 94	6,242 60	49,875 34
July.....	28,612 81	129,999 97	3,553 78	162,166 56	6,627 05	155,539 51
August.....	45,586 55	175,342 70	6,967 39	227,896 64	14,827 69	213,068 95
September.....	87,799 55	282,557 24	7,572 78	377,929 57	55,236 10	322,693 47
October.....	57,183 78	650,887 70	9,177 65	717,249 13	35,239 21	682,009 92
November.....	59,513 80	639,272 15	14,137 57	712,923 52	126,527 65	586,395 87
December.....	51,500 73	634,222 43	47,846 06	733,569 22	102,515 51	631,053 71
1916.						
January.....	23,823 89	325,005 93	22,363 73	371,193 55	75,982 59	295,210 96
February.....	47,533 24	271,889 54	6,217 51	325,640 29	76,414 27	249,226 02
March.....	22,298 71	363,949 63	20,743 68	406,992 02	120,208 72	286,783 30
1915-16.....	473,109 61	3,776,275 90	143,725 95	4,393,111 46	634,724 07	3,758,387 39
1914-15.....	20,779 86	166,797 37	747 87	188,325 10	46,013 45	142,311 65

*Winnipeg to Westfort operated by Grand Trunk Pacific as agents for Canadian Govt. Railways.

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

TRANSCONTINENTAL RAILWAY.—Freight Statement.

Month.	Local.		Through.		Total.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1915.						
April.....	12,860	1,157,710	10,828	1,318,361	23,688	2,476,071
May.....	8,698	782,242	10,404	1,179,626	19,102	1,961,868
*May and June.....	40,127	5,897,240	40,318	5,912,050	80,535	11,809,290
June.....	21,718	1,632,940	12,335	1,192,756	34,053	2,825,696
July.....	42,768	8,750,132	25,319	6,677,386	68,087	15,427,518
August.....	56,895	10,863,596	25,522	7,270,354	82,417	18,133,950
September.....	56,862	17,278,244	69,775	27,127,908	126,637	44,406,152
October.....	75,525	18,811,781	286,741	119,041,480	362,266	137,853,261
November.....	74,418	21,426,109	299,424	127,364,057	373,842	148,790,166
December.....	73,464	21,460,448	279,330	116,323,168	352,794	137,783,616
1916.						
January.....	49,237	13,994,399	98,120	40,397,998	147,357	54,392,397
February.....	62,347	19,955,780	82,708	37,779,615	145,055	57,735,395
March.....	44,766	14,615,816	123,880	66,200,370	168,646	80,816,186
1915-16.....	619,775	156,626,437	1,364,704	557,785,129	1,984,479	714,411,566
1914-15.....	95,509	8,285,732	69,889	8,082,951	165,398	16,368,683

*Winnipeg to Westfort operated by Grand Trunk Pacific as agents for Canadian Govt Railways.

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—Passenger Statement.

Month.	Local.		Through.		Total.	
	No.	Mileage.	No.	Mileage.	No.	Mileage.
1915.						
April.....	3,554	180,325	563	21,222	4,117	201,547
May.....	3,719	186,457	535	31,186	4,254	217,643
May and June.....	37,328	1,033,354			37,328	1,033,354
June.....	6,420	1,364,918	1,156	92,601	7,576	457,519
July.....	26,265	971,778	5,145	627,792	31,410	1,599,570
August.....	24,399	1,549,097	4,392	1,249,407	28,791	2,798,504
September.....	29,522	909,949	10,560	6,525,338	40,082	7,435,287
October.....	27,146	824,333	4,520	1,579,717	31,666	2,404,050
November.....	31,900	761,170	4,503	2,013,884	36,403	2,775,054
December.....	38,270	780,149	3,610	1,519,057	41,880	2,299,206
1916.						
January.....	23,204	686,645	1,809	358,816	25,013	1,045,461
February.....	69,406	672,646	6,563	1,927,737	75,969	2,600,383
March.....	35,693	536,658	1,623	594,734	37,316	1,131,392
1915-16.....	356,826	9,457,479	44,979	16,541,491	401,805	25,998,970
1914-15.....	19,350	866,823	3,153	237,759	22,503	924,582

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

TRANSCONTINENTAL RAILWAY.—Comparative Statement of Principal Revenue-producing Freight carried over the Transcontinental Railway in 1914-15 and 1915-16.

	1914-15.	1915-16.
	Tons.	Tons.
Products of Agriculture—		
Grain.....	1,036	1,086,917
Flour.....	1,585	13,001
Other mill products.....	484	4,550
Hay.....	2,162	8,069
Tobacco.....	2	763
Cotton.....	20	821
Potatoes.....	5,818	7,018
Fruit and vegetables.....	2	6,891
Other products of agriculture.....		3,202
Products of Animals—		
Horses and hogs.....	181	4,159
Sheep and cattle.....	76	2,437
Dressed meats.....	41	1,802
Poultry and game.....	1	75
Hides and leather.....	10	1,694
Fish.....	60	2,958
Other products of animals.....	15	627
Packing house products.....	18	2,505
Products of Mines—		
Coal and coke.....	23,960	278,531
Ore.....		98,580
Sand, stone, etc.....	297	3,713
Salt.....	109	5,805
Phosphate.....	460	1,155
Other products of mines.....	19	1,279
Products of Forests—		
Lumber.....	30,140	119,588
Bark.....	153	1,132
Cordwood.....	40	13,690
Pulpwood.....	73,086	86,615
Shingles.....	1,226	2,871
Other forest products.....	8,511	17,156
Manufactures—		
Oils.....	293	22,546
Sugar.....	452	5,571
Iron and steel rails.....	57	24,347
Iron, pig and bloom.....	4	3,676
Other castings and machinery.....	1,285	20,914
Bar and sheet metals.....	101	1,707
Brick, lime, and cement.....	638	8,029
Agriculture implements.....	13	6,426
Wagons, carriages, and tools.....	27	3,465
Wines, liquors, and beers.....	87	4,601
Household goods and furniture.....	141	5,970
Immigrants' effects.....	11	935
Miscellaneous.....	12,777	98,688
Total.....	165,398	1,984,479

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

7 GEORGE V, A. 1917

TRANSCONTINENTAL RAILWAY.—Statistical Statement of Earnings and Operating Expenses by Districts, Year ended March 31, 1916.

Summary.	5th District.			1st District.		
	Passenger.	Freight.	Total.	Passenger.	Freight.	Total.
Train miles.....	94,845	219,615	314,460	81,427	144,842	226,269
Locomotive miles.....	99,650	237,941	337,591	88,963	184,701	273,754
Gross ton miles.....	20,816,306	106,258,006	127,074,912	20,876,711	71,555,679	92,432,390
Passengers and tons freight moved one mile.....	3,095,823	28,639,557		3,245,030	22,134,770	
Earnings—						
Passenger.....	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Freight.....	56,001 43	257,497 09	56,601 43	80,028 56	150,293 24	80,028 56
Mails and express.....	6,050 00		257,497 09	7,695 91		150,293 24
Miscellaneous.....	16,328 30	37,810 63	6,050 00	12,379 21	22,017 05	7,695 91
Total revenue.....	46,323 73	219,686 46	54,138 93	75,345 26		34,396 26
Revenue per train mile.....	0 49	1 00	266,010 19	0 93	128,276 19	203,621 45
Revenue per locomotive mile.....	0 46	0 92	0 85	0 85	0 89	0 90
Revenue per 1,000 gross ton miles.....	2 23	2 07	0 79	3 61	0 70	0 74
Revenue per passenger and ton freight one mile (cents).....	1 50	0 77	2 09	2 32	1 79	2 20
Surplus.....					0 58	
Operating Expenses—						
Maintenance of way and structures.....	65,275 84	151,155 99	216,431 83	84,157 80	149,678 82	233,836 62
Maintenance of equipment.....	26,550 59	66,239 87	92,790 46	26,153 75	47,445 69	73,599 44
Traffic expenses.....	3,349 68	7,735 84	11,076 52	3,704 11	6,587 93	10,292 04
Station service.....	4,325 95	10,017 37	14,343 32	8,617 10	15,325 94	23,943 04
Yard service.....	545 15	9,906 39	5,451 54	2,568 59	23,117 36	25,685 95
Locomotive service (road).....	38,423 30	91,736 92	130,160 22	43,937 19	91,254 17	135,191 36
Train service.....	13,042 61	30,309 05	43,254 66	12,572 76	22,361 97	34,934 03
Other transportation expenses.....	5,928 95	15,187 69	21,116 64	15,037 22	40,518 47	55,555 69
Total transportation expenses.....	62,268 96	152,037 42	214,326 38	82,732 96	192,577 21	275,310 07
Miscellaneous operations.....				4 50		4 50
General expenses.....	3,551 40	8,223 80	11,775 20	2,789 85	4,961 90	7,751 75
Total operating expenses.....	160,987 47	385,412 92	546,400 39	199,542 87	401,251 55	600,794 42
Cost per train mile.....	1 70	1 75	1 74	2 45	2 77	2 66
Cost per locomotive mile.....	1 62	1 62	1 62	2 24	2 17	2 19
Cost per 1,000 gross ton miles.....	7 73	3 63	4 30	9 56	5 61	6 50
Cost per passenger and ton freight one mile (cents).....	5 20	1 35		6 15	1 81	
Deficit.....	114,663 74	165,726 46	280,390 20	124,197 61	272,675 36	397,172 97

SESSIONAL PAPER No. 20

TRANSCONTINENTAL RAILWAY—Statistical Statement of Earnings and Operating Expenses by Districts, Year ending March 31, 1916.

Summary.	2nd District.			3rd District.			Total Districts.		
	Passenger.	Freight.	Total.	Passenger.	Freight.	Total.	Passenger.	Freight.	Total.
	\$	\$ cts.	\$	\$	\$ cts.	\$	\$	\$ cts.	\$
Train miles.....	158,979	396,633	555,612	129,830	1,059,938	1,189,768	465,081	1,821,028	2,286,109
Locomotive miles.....	166,528	440,017	615,545	161,822	1,322,714	1,484,539	516,966	2,194,463	2,711,429
Gross ton miles.....	68,316,872	310,253,976	378,570,848	63,230,392	1,267,572,767	1,330,793,059	173,230,181	1,755,641,028	1,928,871,209
Passengers and tons freight moved one mile.	10,751,329	90,929,732		8,906,788	553,295,307		25,998,970	724,999,366	
Earnings—									
Passenger.....	170,327 14		170,327 14	106,152 48		106,152 48	473,109 61		473,109 61
Freight.....		492,967 84	492,967 84		2,875,517 73	2,875,517 73		3,776,275 90	3,776,275 90
Mails and express.....	14,000 54		14,000 54	11,050 58		11,058 58	38,797 63		38,797 63
Miscellaneous.....	— 43,245 09	— 107,908 66	— 151,153 75	— 31,650 65	— 258,456 16	— 290,106 81	— 103,693 25	— 426,192 50	— 629,795 75
Total revenue.....	141,082 59	385,059 18	526,141 77	145,532 41	2,617,061 57	2,762,613 98	408,303 99	3,350,083 40	3,758,387 39
Revenue per train mile.....	0 89	0 97	0 95	1 12	2 47	2 32	0 88	1 84	1 64
Revenue per locomotive mile.....	0 85	0 85	0 85	0 90	1 98	1 86	0 79	1 39	1 39
Revenue per 1,000 gross ton miles.....	2 07	1 24	1 39	2 30	2 06	2 08	2 36	1 91	1 95
Revenue per passenger and ton freight one mile (cents).....	1 31	0 42		1 63	0 45		1 57	0 46	
Surplus.....					953,289 46	903,454 15		288,182 75	
Operating expenses—									
Maintenance of way and structures.....	70,152 91	175,051 24	245,204 15	47,703 13	389,539 10	437,242 23	267,289 68	865,425 15	1,122,714 83
Maintenance of equipment.....	44,698 49	103,857 59	148,466 08	29,795 45	232,169 61	261,965 09	127,108 28	449,712 79	576,821 07
Traffic expenses.....	7,813 46	19,496 78	27,310 24	2,339 35	19,266 21	21,625 56	17,217 60	53,086 76	70,304 36
Station service.....	6,161 74	15,375 26	21,537 00	7,779 59	63,227 42	71,307 01	26,884 38	104,245 99	131,130 37
Yard service.....	1,080 65	9,725 82	10,806 47	8,682 01	164,958 15	173,640 16	12,876 40	262,707 72	215,584 12
Locomotive service (road).....	75,374 99	203,275 61	278,650 60	64,739 88	533,301 56	598,041 44	222,475 36	919,568 26	1,142,043 62
Train service.....	22,074 86	55,082 99	77,157 85	18,579 94	151,721 99	170,301 93	66,273 17	259,375 30	325,648 47
Other transportation expenses.....	8,150 15	17,595 12	25,745 27	10,059 94	77,701 04	87,760 98	39,176 26	151,002 32	190,178 58
Total transportation expenses.....	112,842 39	301,054 80	413,897 19	109,841 36	991,210 16	1,101,051 52	367,685 57	1,636,899 59	2,004,555 16
Miscellaneous operations.....	2,472 82		2,472 82	1,830 27		1,830 27	4,297 59		4,297 59
General expenses.....	4,819 97	12,003 66	16,823 63	3,868 16	31,587 00	35,455 16	15,029 38	56,771 36	71,805 74
Total operating expenses.....	242,710 04	611,464 07	854,174 11	195,387 72	1,663,772 11	1,859,159 83	798,628 10	3,061,900 65	3,860,528 75
Cost per train mile.....	1 53	1 54	1 54	1 50	1 57	1 56	1 73	1 68	1 69
Cost per locomotive mile.....	1 46	1 36	1 39	1 21	1 26	1 25	1 54	1 40	1 42
Cost per 1,000 gross ton miles.....	3 55	1 97	2 26	3 10	1 31	1 40	4 61	1 74	2 00
Cost per passenger and ton freight one mile (cents).....	2 26	0 67		2 19	0 29		3 07	0 42	
Deficit.....	101,627 45	226,404 89	328,032 34	49,835 31			390,324 11		102,141 36

S. L. SHANNON, Comptroller and Treasurer.

MONCTON, N.B., July 20, 1916.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.—Statement of Casualties for Fiscal

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915							
April 1	13.50						Morisette's siding.
" 1	11 30	Light.....	Engine.....	A. J. Harned.....	G. H. Brown.....	2629	St. John.....
" 2	4 49	10	Passenger...	H. Baker.....	A. M. Steeves....	440	Sackville.....
" 7	14.15	Special.....	Freight.....	A. J. McDonald...	J. Gazley.....	151	Maccan.....
" 8	19.40	1	Passenger...	J. W. Coles.....	Jas. Moody.....	640	Sussex, N.B.....
" 10	12.58	33	Passenger...	W. A. Mitchell...			Levis, P.Q.....
" 12	9.30	55	Passenger...	A. Mahoney.....	J. B. Champion...	105	Stellarton.....
" 13	7.20	Extra.....	Freight.....	C. E. Brown.....	E. Burke.....	149	Bedford.....
" 16	15.58	Military....	Special.....	J. N. Bernier....	H. Toohey.....	119	Aston Jet.....
" 19	10.31	33	Passenger...	G. Walker.....	A. Franck.....	156	Ste. Louise.....
" 21	19.30						St. Anselme.....
" 23		44		J. Wilson.....	E. Lacombe.....	136	East of Bic.....
" 26							Eel River.....
" 29	17.30	Extra.....	Freight.....	D. Hanson.....	R. Miles.....		Centreville.....
May 1	9.45	145	Passenger...	M. Verville.....	M. Houston.....	619	St. Hyacinthe.....
" 11	8.15						Moncton Yard.....
" 15	4.45	33	Passenger...	J. A. Hughes.....		407	Brentwood.....
" 29	8.48	9	Passenger...	J. Buchanan.....	J. McLellan.....	426	Richmond.....
" 31	11.30		Shunter.....	E. J. Abell.....	H. Cameron.....	806	Moncton.....
June 1	11.30				Geo. Milne.....	636	St. John, N.B.....
" 16	8.32	200	Passenger...	L. E. Proulx.....	J. Toohey.....	409	St. Hyacinthe.....
" 17							Antigonish.....
" 18	5.20	Military....	Special.....	G. Henderson...	T. Eagles.....	404	Petitcodiac.....
" 22	9.35	39	Freight.....	J. Harvey.....	W. Ingram.....	266	Nelson Jet.....
" 25					J. Stewart.....	445	Moncton.....
" 29	14.00			G. L. Nixon.....	E. Doyle.....	1091	Pt. Du Chêne.....
" 29	5.10	Extra.....		O. Samson.....	W. Blanchette....	139	Aston Jet.....
May 29							North Sydney.....
July 3	8.20	Freight.....	Special.....	E. Matatall.....	F. Hamilton.....	603	Waverly.....
" 5							Matapedia.....
" 5	4.00						New Glasgow.....
" 6	8.30		Switcher...	W. Hunter.....	E. Stirling.....	1177	St. John, N.B.....
" 9	8.05			J. Drake.....	M. Schurman.....	839	Halifax, N.S.....
" 10	4.37	9	Passenger...	W. L. Broad.....	W. H. Anderson...	404	Sussex.....
" 13	24.00	12	Freight.....	W. H. Wilbur.....	T. Townsend.....	104	Penobscus.....
" 16		33	Passenger...				Hadlow.....
" 18	8.50	199	Passenger...	A. Dionne.....	J. Gilker.....	444	Near Val Brilliant

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Year ending March 31, 1916.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
D. Gamache	Employee	Unloading rails.	Foot jammed.	
Alex. Adams	Neither...	Standing along side of track; struck by engine.	Slightly injured	
Sam'l. Ison.	Trespasser.	Stealing a ride, fell between cars	Face scratched and shaken up.	
Fred. Purdy...	Neither...	Jumping on and off trains, fell under cars.	Fatal.	Railway exonerated.
Wm. Ashe.	Neither...	Crossing track in front of engine. Hit by engine.	Fatal.	Railway exonerated.
John Daley	Passenger...	Intoxicated; fell off train	Back, hip and leg bruised	
J. B. Champion	Employee	Struck on head by lump of coal falling from tender.	Head cut.	
Geo. Griswold...	Neither...	Standing on track; struck by train.	Fatal.	Railway exonerated
L. Orr	Passenger—Soldier.	Fell off train.	Slightly hurt.	
Ernest Berube.	Passenger...	Jumped off train while in motion.	Badly injured.	
W. U. Appleton	Employees.	While running motor car ran into rear of standing train.	Slightly injured.	
A. D. Porter				
C. Stuart				
Henry Beaulieu.	Neither...	Supposed to be walking on track; struck by train.	Fatal.	Railway exonerated.
J. Stephenson.	Conductor...	Unloading freight.	Back hurt	
W. Markey...	Employee.	Standing on top of cars; struck by electric wire.	Cut about temple and nose.	
Jos. Champoux.	Employee.	Knocked from train by dwarf switch.	Left leg injured.	
Geo. Downing...	Employee	Run over while inspecting train.	Fatal.	Railway exonerated.
J. Cormier.....	Employee	Knocked to ground only.	Slightly injured.	
Marg't. Milligan.	Passenger	Supposed to have jumped out of window.	Fatal.	Railway exonerated
R. B. Schurman	Passenger...	Standing on car platform; thrown from train by lurch.	Neck and shoulder cut and bruised.	
F. M. Barnes..	Employee	Fell off top of box car.	Right arm broken.	
Geo. Milne....	Employee.	Slipped and fell while alighting from engine.	Ankle sprained.	
Hormidas Quevillon.	Neither...	Struck by train	Fatal.	Railway exonerated.
Eusebe Tureotte	"	"	"	"
John Benoit....	Employee.	Fell off car while loading timber.	Face cut; arm and leg injured.	
H. Homan	Soldier psgr.	(Hands out of windows coming in contact with cars on siding)	Hands bruised.	
C. Karalika	"			
Wm. Young...	Employee	Struck by train while riding on hand car.	Fatal.	Railway exonerated.
J. Mahoney...	Employee	Jammed against door by engine	Slightly injured.	
Annie Brydges.	Neither.	Playing under cars; run over	Fatal.	Railway exonerated.
J. St. Laurent.	Employee	Missed footing while getting on engine.	Right leg bruised.	
Walter Long.	Neither	Slipped and fell between freight shed and car.	Knee cap broken.	
E. Matatall.	Employee.	(Van and cars derailed)	Badly burned.	
E. Burke.	Employee		Slightly injured.	
E. Langis.....	Employee	Baggage falling on foot.	Foot smashed.	
A. M. Reid...	Employee	Fell off car while unloading lumber	Wrist broken and hip injured.	
Geo. F. Wetmore	Brakeman	Coupling cars.	Finger badly smashed.	
James Ryan...	Employee	Shifting iron on car; foot caught	Foot jammed.	
Frank Drake	Neither.	Stealing ride; fell off cars.	Left leg cut off.	
(Unknown)	Neither...	Struck by engine while sitting on track.	Fatal.	No inquest
John M. Brown.	Soldier psgr.	Fell from train.	Back injured.	
Sylvas Sysvan	Neither.	Struck and killed by train while on trolley car	Fatal.	Railway exonerated.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.—Statement of Casualties for Fiscal

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915							
July	20	3.30	Work.....	Extra.....	C. Audet.....	J. Young.....	320 Moffatts.....
"	24	5.30					834 Mont Joli.....
"	26						Near Sully (N.T.R.)
"	30	11.30	Work.....	Extra.....	N. Morton.....	M. Wortman.....	11 Barnaby River.
"	30	5.25	33	Passenger..	W. A. Mitchell....	W. E. Turner.....	452 Ste. Madeleine.
Aug.	2	5.30		Switcher...	W. Pettipas.....	D. A. Stewart....	1088 New Glasgow.....
"	7	9.30		Special.....	J. Russell.....	R. E. Linden.....	38 Barnaby River.
"	8	14.00					Thorburn.....
"	10	3.15	200	Passenger..	D. Jamieson.....	C. Chapman.....	269 Canaan.....
"	13	1.50	200	Passenger..	W. Crockett.....	J. Stewart.....	445 Newcastle.....
"	18						Sacré-Coeur.....
"	18	10.00	175	Freight.....	W. W. Gordon.....		122 Harbor Au Bouche.
"	22		39	Acco.	J. Card.....	L. Gilker.....	46 Eel River.....
"	28	5.50	200	Passenger..	W. Hopper.....	J. D. McDonald...	454 On train.....
"	24	6.55	133	Passenger..	W. L. Broad.....	W. Coffee.....	629 Moncton.....
Sept.	3	7.30	Work.....	Extra.....	J. R. Cormier.....	W. S. Lutes.....	77 Amherst, N.S.....
"	4	7.30		Special.....	H. Boutin.....	G. Lambert.....	89 Daveluyville.
"	9	7.15	76	Freight.....		Gallan.....	842 Campbellton.....
"	10	2.28	64	Passenger..	C. D. Phillips....	J. Hessian.....	1087 Bedford.....
"	14	9.15	Special.....	Passenger..	J. Halliday.....	E. McKenzie.....	211 Hilden.....
"	15	5.30	Work.....	Extra.....	M. Wrynn.....	F. Hicks.....	1025 Sackville.....
"	15	4.13	Work.....	Extra.....	V. Gendron.....	Jos. Filion.....	94 St. Eugene.....
"	15	4.13	Freight...	Extra.....	W. St. Pierre.....	J. Bruce.....	643 St. Eugene.....
"	21	8.10	34	Passenger..	W. Ferguson.....	G. Anderson.....	447 Moncton Yard.....
"	22	5.20	Light.....	Engine.....		H. Lynds.....	420 Truro Yard.....
"	23	8.45	Way.....	Freight.....	D. Jamieson.....		Russell's siding....
"	25	7.10	2	Mixed.....	D. R. Hanson.....	P. Ivory.....	1015 Avondale Road.....
"	27	7.28	199	Passenger..	A. Begin.....	E. B. Price.....	444 Assametequaghan..
"	29	4.50		Extra.....	A. Boutin.....	E. Mitchell.....	97 Ste. Rosalie Jet,
Oct.	3	8.30	Light.....	Engine.....	J. Heffer.....	C. Moxon.....	839 Halifax.....
"	10	3.30		Extra.....	M. McDonald.....	A. Phinney.....	203 Amherst.....
"	10	11.30	74	Freight.....	H. LeBel.....	P. Michaud.....	283 Isle Verte.....
"	14	5.00	34	Passenger..	M. Thompson.....	J. Stewart.....	445 Beaver Brook.....
"	19	10.56	1	Passenger..	T. Guinan.....	H. McDonald.....	627 Greenville.....
"	24	5.30	Freight...	Extra.....	D. Hanson.....	R. Miles.....	1006 West Derby Jet....
"	25	6.20	Way.....	Freight.....			Belocil.....
"	27	10.30		Extra.....	A. Frechette.....	A. Ferguson.....	606 Belocil.....
"	29	1.30	31	Passenger..	C. Trucman.....	P. P. Cormier....	8 Pt. du Chêne.....
Nov.	1	9.05					Levis, P.Q.....

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Year ending March 31, 1916—*Continued.*

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
James Garnett...	Employee..	Foot caught in machinery by engine.	Ankle injured.	
Alphonse Dubé..	Employee..	Struck by train.....	Head cut and side injured.	
Joseph Nadeau..	Employee..	Thrown from hand car.....	Slightly injured.	
Frank Lutes.....	Employee..	Heating water with car heater hose.	Hand scalded (right).	
Sharres Savard..	Neither....	Walking on track; struck by train..	Fatal.....	Railway exonerated.
W. Pettipas.....	Employee..	Caught between engine and car while coupling.	Shoulder jammed.....	
Mrs Margaret Quilty.	Neither....	Crossing tracks; struck by train..	Fatal.....	No inquest.
Alex. McDonald	Neither....	Attempting to stop car with blocks	All fingers on left hand smashed.	
John Gallagher..	Neither....	Attempting to board train missed footing.	Toe cut off and foot smashed.	
Ernest Miller....	Employee..	Painting bridge; struck by side of train.	Fatal.....	No inquest.
Ernest Michaud..	Employee..	Loading rails.....	Thumb crushed.	
J. P. Smith.....	Employee..	Fell from top of train.....	Collar bone broken, two ribs fractured.	
Sam'l. Gervais..	Neither....	Attempted to board moving train.	Leg bruised and head cut	
Jude Gautreau..	Passenger..	Window falling on arm.....	Elbow joint dislocated.	
Otto Crossman...	Employee..	Walking on track; struck by engine.	Badly shaken up.	
J. McLean.....	Employee..	On plow, thrown from track.....	Hip dislocated.	
Raoul Lord.....	Employee..	Rear end collision.....	Right leg dislocated, head injured.	
J. G. Stockford..	Employee..	Struck by switch engine.....	Slightly injured.	
Miss A. Ralsey..	Passenger..	Attempted to board moving train, thrown to platform.	Elbow injured and shaken up.	
Mrs. Wright.....	Passenger..	Fell off slowly moving train.....	Badly shaken up.	
A. W. Mitton....	Employee..	Coupling cars on curve.....	Chest crushed.	
(L. Genois.....	Employee..	2nd N. 147 train running into rear of freight.	Slightly injured	
Jos. Lussier....	"	"	"	
Geo. Zurk.....	Passenger..	"	"	
T. P. Graham....	Employee..	Fell from moving train while opening vestibule doors.	Fatal.....	No inquest.
Wm. Perrian....	Neither....	Crossing tracks in yard. Struck by engine.	Fatal.....	Railway exonerated.
Robt. Murray...	Passenger..	Sitting on chair in van, chair upset when train gave lurch.	Head slightly cut.	
D. Hanson.....	Employee..	Loading baggage in car.....	Elbow injured.	
William Carr....	Passenger..	Being taken to asylum; jumped through window of car.	Head badly cut and two ribs fractured.	
Emile Forgues..	Employee..	Right hand squeezed between tender and van.	Bruised.	
L. Baker.....	Employee..	Fell off box car.....	Fatal.....	No inquest.
Thos. White....	Neither....	Try to board moving train, fell off.	Both feet cut off.	
Marjorique Dube.	Neither....	Driving team over crossing, struck by train.	Fatal.	No inquest.
Alphonse Dubé.				
Cyrille Dubé				
Wm. R. Robinson.	Neither....	Struck by train.....	Fatal.	Railway exonerated.
H. McDonald.	Employee..	Engine derailed.....	Leg broken.	
Robert Bernard.	Neither....	Lying on track, struck by train..	Fatal...	Railway exonerated.
Sam Edwards.	Passenger..	Train run into by G.T.R. extra 548.	Shoulder slightly hurt.	
Armand Dupre..	Neither....	Supposed to have crawled under train while intoxicated.	Left leg crushed.	
Lorne Trites...	Employee..	Leaning head out of train, came in contact with object.	Head cut and hip injured.	
Wm. Henry Dickson.	Hatchman.	Struck by coal clam while unloading coal.	Fatal.	Accidental.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.—Statement of Casualties for Fiscal

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915							
Nov. 2	7.12	200	Passenger...	A. Begin.....	J. Gilker...	444	Causapsca..
" 6	3.45	34	Passenger...	J. B. Dubé...	L. V. Sheedy...	450	Cap St. Ignace..
" 8	10.00		Freight.....	Extra.....	R. W. Duff.....		New Glasgow.
" 8	1.45		Way-freight	J. R. McManus...	K. Cool.....	131	McLean's Siding
" 12	11.30	85		E. Johnson.....	J. T. Cain.....	104	Sussex...
" 15	1.30	56	Passenger...	E. Johnson.....	J. Gazley.....	148	Springhill Jet.
" 15	3.50		Way freight	W. F. Kerr.....	A. Sutherland....	103	Stellarton...
" 16	6.30		Way freight	J. T. Doyle...	M. O'Shaughnessy	50	Gloucester Jet
" 20	11.00		Switcher....	E. A. Smith...	G. Demille.....	6	Rothsay....
" 26	7.30	Special...	Switcher....	J. Drake...	P. McInnes.....	828	Halifax, N.S.
" 30	9.50		Passenger...	A. Fournier...	J. Gendron...	283	Cap St. Ignace..
" 30	9.50			J. H. Bleakney...	J. Gendron...	821	Moneton, N.B.
Dec. 1	10.35	302	Passenger...	H. E. Somers....	J. Cameron.....	1103	Marysville...
" 5	11.15	254		J. Hamilton.....	W. A. Jewett....	2514	Moneton, N.B.
" 5	9.30		Switcher....	W. Belanger....	H. Maisiey.....	842	Campbellton..
" 6	10.00			C. Morton.....	H. Maisiey.....	256	Moneton.
" 6	4.00	75	Passenger...	C. Morton.....	C. Morton.....	256	Berry Mills.
" 6	5.30						St. John.
" 11	12.50	G.T.R. 19.		J. Lambert.....	F. Doyle.....	400	St. Romuald...
" 23	3.40	Extra....	Freight.....	G. A. Bonneau...	Kirouac.....	2509	St. Hilaire...
" 30	3.37	1	Passenger...	H. A. Stitson...	R. McWilliams...	26	Kensington...
" 31	9.30		Switcher....	T. Bell.....	C. McTiernan....		Halifax...
1916							
Jan. 1	12.30		Freight.....	L. Orchard...	C. Killam.....	272	Causapsca..
" 3	11.46	Extra...	Ex. freight..	E. Johnson.....	Isnor.....	625	Thomson...
" 3	11.46			C. Cochrane...	McGowan.....	406	Thomson...
" 3	6.30		Switcher....	R. Weiling...	Wortman.....		Thomson...
" 5	1.12	200	Passenger...	A. Begin.....	J. H. Burns...	830	Moneton...
" 8	8.35	83	Passenger...	J. Coffey...	J. Gilker.....	444	Flat Lands...
" 8	6.45	79	Passenger...	A. Calder...	W. Carson.....	1092	Sackville...
" 15	10.20	175	Freight...	D. McDonald...	T. Wilson.....	620	Trenton...
" 14	10.00				D. Campbell....	70	Sydney, N.S.
" 15	9.55	199	Passenger...	A. E. Brown...	D. Campbell....	70	Moneton.
" 15	10.45	76	Freight...	C. W. Lutes...	W. Wall.....	415	Truro, N.S.
" 18	9.50		Freight...	H. Camire...	P. O'Toole...	206	North of Alton.
" 21	20.00					2503	St. Leonard Jet
" 22	6.20	200 5th	Passenger...				Moneton.
" 22	6.15	230	Freight...	J. Stephenson..	O. Gilker.....	623	Elmsdale...
" 24	6.45	6	Passenger...	M. N. Hopper...	O. Gilker.....	623	Campbellton..
" 24	6.45				J. Wall.....	415	Enfield...

SESSIONAL PAPER No. 20

Year ending March 31, 1916—*Continued.*

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
Mrs. Leonard Benoit.	Neither.	Struck by train.	Fatal.	Railway exonerated.
Miss Irene Simmons.	Passenger.	Jumping from train while in motion.	Leg broken.	
Alex. McDonald.	Employee.	Thumb caught in car door.	Thumb crushed.	Railway exonerated.
Gilker.	Employee.	Fell off top of box cars.	Ankle sprained.	
Angus McDonald.	Employee.	Stepped on tie while getting off engine.	Ankle sprained.	
Andrew Carylle.	Employee.	Coupling cars.	Fore finger on right hand smashed.	Railway exonerated.
Sam'l. Fiefield.	Neither.	Trying to board train while in motion.	One arm cut off.	
J. T. Doyle.	Neither.	Fell in van.	Face cut.	Railway exonerated.
Chas. N. Cook.	Employee.	Caught between engine and platform.	Badly jammed.	
Hector McKinnon.	Employee.	Fell from top of car.	Back injured.	Railway exonerated.
Geo. Frigault.	Neither.	Crossing tracks in team, struck by train.	Fatal.	
Mrs. Edgar Mcthot.	Neither.	Crossing tracks in team, struck by train.	Fatal.	Railway exonerated.
A. W. Wright.	Porter, C.P.R.	Cars running away and bumping into others.	Head cut.	
Isiah Phillips.	Neither.	Walking on track, struck by train.	Fatal.	Railway exonerated.
A. Goodwin.	Employee.	Fell off engine.	Right wrist broken.	
J. A. Gauthier.	Employee.	Hand caught between draw-bars.	Hand crushed.	Railway exonerated.
H. Kelly.	Employee.	Handling freight, slipped and fell.	Ankle sprained.	
Percy Steeves.	Employee, not on duty.	Found along side of track injured.	Not serious.	Railway exonerated.
Abraham Tracey.	Neither.	Thrown from top of box car.	Fatal.	
Oliver Gagnon.	Neither.	Walking on track; struck by train.	Head cut.	Railway exonerated.
G. A. Bonneau.	Employee.	I.C.R. train run into G.T.R. train.	Slightly injured.	
Thomas Stewart.	Neither.	Driving team across track; struck by train.	Cut about head and face. Not serious.	Railway exonerated.
John Cameron.	Neither.	Driving team across track; struck by train.	Shoulder injured. Not serious.	
Frank Bell.	Employee.	Jammed between cars.	Shoulder injured, not serious.	Railway exonerated.
J. Berube.	Employee.	Finger caught in side rod while passing engine.	Finger cut off.	
E. Johnson.	Employee.	Extra 625 ran into rear of extra 78.	Fatal.	Railway exonerated.
H. McGowan.	Employee.	Extra 625 ran into rear of extra 78.	Face cut and wrist sprained.	
Chas. McAllister.	Employee.	Extra 625 ran into rear of extra 78.	Ankle badly sprained.	No request.
Nelson Main.	Employee.	Putting hose on car; run over.	Fatal.	
Levi Adams.	Neither.	Walking on track; struck by train.	Badly injured.	No request.
John Jones.	Passenger.	Slipped or jumped off train.	Head badly cut.	
Wm. J. Bucksworth.	Passenger.	Jumped from moving train.	One foot cut off.	No request.
Lea Fogarty.	Neither.	Driving team over crossing; struck by train.	Right hand and leg injured. Not serious.	
James Power.	Employee.	Oiling turntable; slipped through between cross ties.	Legs badly bruised.	No request.
Trueman McKay.	Neither.	Driving team over crossing; struck by train.	Arm slightly bruised.	
S. J. Horton.	Employee.	Fell from train while in motion.	Slightly injured.	No request.
Harvey Croteau.	Employee.	Fell from train while in motion.	Left foot injured.	
A. J. Powell.	Employee.	Freight falling on foot.	Foot bruised.	No request.
Ed. Graves.	Cook, C.P.R.	Brakes going into emergency; knocked down car.	Back injured.	
John Savidant.	Neither.	Riding on freight cars; fell under wheels.	Fatal.	Railway exonerated.
John Stanford.	Passenger.	Slipped from car steps of moving train.	Leg broken, nose and back injured.	

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.—Statement of Casualties for Fiscal

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1916							
Feb. 3	15.00		Snow train.			1016	Riv. du Loup.....
" 8	7.45						Moncton Yard.....
" 9	5.10	24	Passenger...	H. G. Thompson.	G. Cuthbertson...	402	Island Yard.....
" 9						1016	St. Charles Jet.....
" 11	12.45	199	Passenger...	A. E. Brown.....	W. Gross.....	453	Amherst.....
" 10	2.45						James River.....
" 11	1.20	5	Passenger...	D. McIntosh.....	T. Hennessy.....	414	South River.....
" 16	1.50	5	Passenger...	J. McDonald.....	T. Hennessy.....	420	Bayfield Road.....
" 21	4.10	Extra.....	Freight.....	G. W. Henderson.	W. Rushton.....	104	Amherst, N.S.....
" 22	3.30		Switcher...	H. C. Matthews.	J. S. Smith.....	842	Campbellton.....
" 22	2.35	Extra.....	Freight.....	C. McDougall.....		274	Between Jacquet River and Nashe's Creek.....
" 23	12.50	Extra.....	Freight.....	E. Smith.....		285	Petit Metis.....
" 24	11.40	5	Passenger...	G. C. Keys.....			New Glasgow.....
" 28	9.00	252	Freight.....				Siegas (I.N.R.).
Mar. 4	10.30		Freight.....	J. A. St. Pierre...			Matapedia.....
" 5	8.45	199	Passenger...	J. A. LePage.....	G. Begin.....	432	St. Eugene.....
" 5	11.15						Mont Joli.....
" 7				— Mowatt.....	— Mowatt.....	426	Halifax, N.S.....
" 7	2.00	Extra.....	Freight.....				Petit Rocher.....
" 11	9.50		Switcher...				Pt. Levi.....
" 11	9.50		Switcher...	Jos. Dionne.....	C. Mercier.....	129	Riv. du Loup.....
" 14							Halifax, N.S.....
" 15	2.05	503	Passenger...	E. Vincent.....	J. Pelletier.....	118	Lapointe (N.T.R.).
" 15	4.00					628	Hampton.....
" 15	23.00		Switcher...	J. McLean.....	J. E. Elliott.....	839	Halifax, N.S.....
" 18	7.10	Light.....	Engine.....		K. Campbell.....	19	Halifax, N.S.....
" 21	11.05	Extras.....	Freight.....	J. Raymond.....	W. Killam..... H. Maisie..... Comenu..... A. McKenzie...	131 36 39 257	Val Brilliant.....
" 21	10.00		Way freight	C. McDougall, ..	W. O'Shaughnessy	18	Bathurst.....

SESSIONAL PAPER No. 20

Year ending March 31, 1916—*Continued.*

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict
Alphonse Morin.	Snow shoveller.	Attempting to board moving train; fell between cars.	Quite badly bruised.	
Cyrus Lawson...	Employee	Switch lever flapping up; struck him in the face.	Face cut.	
Albert Foster...	C.P.R. messenger.	Jumped from moving train.	Badly cut and bruised.	
A. Gosselin...	Employee.	Loading frog on car.	Hand bruised slightly.	
David Mumford	Neither...	Jumped from between cars of freight train to track in front of passenger train.	Badly injured.	
E. Cormier...	Neither...	Jumped from between cars of freight train to track in front of passenger train.	Badly injured.	
Jos. McDonald.	Neither...	Slipped on station platform.	Right leg broken.	
Mrs. C. H. a s. Kenny.	Passenger...	Jumped from moving train.	Shaken up.	
Hugh Rogers...	Neither...	Driving team over crossing; struck by train.	Quite badly injured.	
Arthur Noiles...	Employee...	Hit on mouth by stand pipe lever.	Broken teeth and lip split.	
Cecil Fisher...	Employee...	Slipped and fell while attempting to board moving train.	Left hip bruised.	
Andrew Peters.	Employee...	Fell from train.	Fatal.	Railway exonerated.
Alphonse Lepage	Employee...	Train derailed.	Cut about head and face.	
Sister St. Andrew.	Passenger...	Fell from moving train.	Hip bone broken.	
L. W. Akerley.	Employee...	Fell off engine tender while taking water.	Slightly injured.	
J. A. St. Pierre.	Employee...	Freight falling on foot.	Foot slightly crushed.	
Mrs. Pierre LaPlante.	Neither...		Leg fractured.	
Rose Alma Desaulnier.	Neither...	Driving over public crossing; struck by train.	Slightly injured.	
Cecile Desaulnier.	Neither...		Slightly injured.	
J. E. Ouellet...	Employee...	Fell in turn table pit.	Foot injured.	
J. E. Kennedy...	Neither...	Driving over crossing; struck by train.	Slightly shaken up.	
S. J. Cameron...	Employee...	Unloading freight.	Foot jammed.	
Henry Quinn...	Neither...	Walking on track; struck by train.	Fatal.	Railway exonerated.
F. F. Martin...	Employee...	Squeezed between engine and van while coupling.	Badly squeezed.	
Frederick Downey.	Employee...	Assisting to put out fire; fell through wharf and drowned.	Fatal.	Railway exonerated.
Fidele Perron...	News agent	Attempting to board moving train; slipped and fell between cars.	Fatal.	Railway exonerated.
James Ross...	Employee...	Fell from engine.	Shoulder dislocated, hip hurt.	
J. McLean...	Employee.	Shifting deals on car; foot caught.	Ankle broken.	
Edward Tingley	Employee. C o o k Construction Co.	Run into by C.G.R. engine.	Slightly shaken up.	
Felix LeGouffe	Fireman...		Fatal.	Railway exonerated.
W. Killam...	Engineer.		Fatal.	Railway exonerated.
H. Maisie...	Engineer...	Head on collision.	Badly injured.	
McNeish...	Fireman...		Badly injured.	
Jos. Thibault...	Neither...		Fatal.	Railway exonerated.
Abel St. Amand	Neither...		Fatal.	Railway exonerated.
Geo. McLeod...	Employee	Hand jammed between car door.	Hand cut and thumb broken.	

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.—Statement of Casualties for Fiscal

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No of En- gine	Place of Accident.
1916							
Mar. 23	4 00		Switcher.	J. McArdle.	J. McLaren	841	Moncton.
" 25	4 30	242	Mixed	S. Cowperthwaite	"	1093	East of Woodstock..
" 25	9 20	873	Extra...	E. Proulx.	T. Samson.	639	Riv. du Loup
" 27	10 30	876	Freight..	P. H. Sirois.	E. Huot	553	Lemieux.
" 31	6 20	168	Militia spl.				St. Madeleine.

SESSIONAL PAPER No. 20

Year ending March 31, 1916—*Continued.*

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
G. W. Woods.	Employee.	Fell from top of box car.	Knee cut and chest injured.	Railway exonerated.
Scott Cowperthwaite.	Employee.	Snow-plow and engine derailed.	Slightly injured.	
Albert Bernier.	Employee.	Slipped and fell from engine.	Slightly injured.	
E. Huot.	Employee.	Jumped from engine.	Ankle sprained.	
Thomas Taylor.	Soldier passenger.	Fell from train.	Fatal.	

7 GEORGE V, A. 1917

NATIONAL TRANSCONTINENTAL RAILWAY.—Statement of
District

Date	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915 July 22	p.m. 3.00		Speeder.....	A. E. Woolam....	F. X. Ouellett....		110½, Fitzpatrick Subd.
" 24	8.00 a.m.						Uniacke.....
Aug. 29	10.50 p.m.	5		A. H. McLean....		20	Spirit Lake.....
" 31	1.35	1	Reg.....	A. H. Baker.....		1090	Lac A Beauce.....
Oct. 13	12.55 a.m.	1	Reg.....	L. Coughlin.....	J. E. Mitchell....		Milieu River.....
" 25	8.30		Motor.....				Doucet S.D. mile 6.
Nov. 3	8.15	2	Reg.....	O. Guay.....	E. T. Bulmer....	610	La Tuque.....
" 5	11.50		Switch eng.	L. Jess.....	H. Cantin.....	811	Quebec.....
" 24	9.00						O'Brien boiler house. Parent.....
Dec. 13	9.00						Greening.....
" 25	p.m.						
" 31	1.55		Plow ext....	L. P. Cloutier....		143	Hervy Jet.....
1916 Jan. 5	6.30 a.m.	112	Extra.....	A. H. McLean....		112	Joghert.....
" 7	10.30						Parent Shop.....
" 9	9.45						Bridge eng. shop....
Feb. 9	12.20 p.m.		Plow extra	B. Vaesuert.....	A. H. Rieger....	13	M.P. 12 Quebec S.D.
" 15	10.00		Extra.....				St. Casimir.....
" 15	8.00	1	Reg.....	W. G. Wilson....			Manouan.....
" 15	4.30			L. Gendron.....		156	Parent.....
" 17	6.15 a.m.	1	Reg.....	W. G. Wilson....		60	Quebec Subd.....
" 19	4.00						Parent.....
" 23	Noon.		Plow.....	Gagne.....	J. McNaughton..	127 and 214	La Tuque.....
Mar. 6	2.00						Doucet.....
" 15		Extra...		A. H. McLain....		112	Sanmaur..

SESSIONAL PAPER No. 20

Casualties for the fiscal year ended March 31, 1916.

No. 1.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
A. E. Woolam.	Bridge insp.	Broken brace rod of motor car stuck in tie derailling same, bruised shoulder and side.		
F. X. Ouellett.	Labourer.	Same as above, cut on head.		
Louis Patuin.	Sec. foreman	Handling gasoline with lighted lantern, gas exploded.	Killed.	Accidental.
P. Dussault.	Brakeman.	On van giving signals, struck on head by water crane.	Injuries slight.	
J. Normandin.	Passenger.	Revolver accidentally discharged	Slight.	
J. Brouellette.	Passenger.	Stepped off train backwards.	Slight.	
C. Pacione.	Section foreman.	Stopped car, 6 miles west of Doucet to repair same. One of party had gun which accidentally discharged, hitting man in stomach.	Died in ten minutes.	Accidental
J. A. Corriveau.	Brakeman.	Standing on step of car, struck on head by switch stand.	Slight.	
Pierre Dugas.	Ferry man.	Struck by train while crossing track.	Slight.	
C. E. Tremblay.	Pumpman.	Injector balked while injecting water into boiler.	Scalded, slight.	
T. Dominico.	Section foreman.	Dumping coal, car lever slipped.	Bruised face, slight.	
F. Cancelli.	Sectionman.	Stabbed by J. Frank—drinking, off duty.	Slight.	
B. Serra.	Section foreman.	Stabbed by J. Frank—drinking, off duty.	Slight.	
H. Rouluk.	Labourer.	Closing wing plow, hand caught between wall and wheel.	Hand severely crushed.	
L. J. O'Neil.	Train agent.	Stepping from side van cupola to other, fell.	Slight.	
Geo. Truchon.	Labourer.	While filling boiler of engine, coupling broke.	Foot scalded, slight.	
Robt. Gilphin.	Hostler.	Slipped while turning engine, hand caught in gear.	Jammed, slight.	
H. Caratusk.	Plowman.	Plow derailed.	Slight.	
B. Caratusk.	Plowman.	Plow derailed.	Slight.	
B. Copy.	Plowman.	Plow derailed.	Slight.	
L. Providey.	Plowman.	Plow derailed.	Slight.	
Y. K. Basan.	Plowman.	Plow derailed.	Slight.	
Y. Chralynka.	Plowman.	Plow derailed.	Slight.	
C. Denatro.	Plowman.	Plow derailed.	Slight.	
J. Mahasyk.	Plowman.	Plow derailed.	Slight.	
Henry Moore.	Plow foreman.	Plow derailed.	Slight.	
Omer Paquette.	Labourer.	Helping to raise spout, came up suddenly threw him to ground	Foot and hip injured.	
P. Petegan.	Passenger.	Attempted to board train in motion fell.	Head injured, slight.	
Leslie Palmer.	Brakeman.	Fell off box ear.	Right ankle broken.	
H. Boisvert.	Passenger.	Struck on head by bottle by drunken soldier.	Slight.	
Alph. Fisette.	Pumpman.	Work on engine, did not close current, piston came out of cylinder, jammed hand	Slight.	
Henry Moore.	Plow foreman.	Thought plow was going to collide with engine, jumped, injuring back and head.	Slight.	
E. Couture.	Plowman.	Same as above.	Serious.	
A. Lafleur.	Cleaner.	Assisting to water engine, slipped on ice.	Knee twisted.	
Jos. Chavarie.	Brakeman.	Unloading way freight, steel shaft dropped on foot.	Bruised, slight.	

7 GEORGE V. A. 1917

NATIONAL TRANSCONTINENTAL RAILWAY.—Statement of Casualties

District

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915 June 9	p.m. 7 00		Hand car.				Omo.
" 23	4 00 a.m.						Grant...
" 29	11 30 a.m.	1	Reg..	Hancock..	Penny.	25	M.P. 38 ¹ , Cochrane S.D.
July 12	p.m. 6 00						Jacobs
" 21	5 45 a.m.		Motor				113, Armstrong S.D.
" 24	2 30 p.m.						60, Cochrane S.D.
" 29	5 45 p.m.		Motor				Kitigan..
Aug 19	10 30 a.m.		Extra...	F. A. Wilson.		403	Driftwood.
" 20	9 30 a.m.	5	Reg	F. A. Wilson.		1095	8 Cochrane S.D.
" 22	6 30 p.m.		Extra...	D. McVicar....		1095	Wilgar.
" 27	7 30 a.m.		Extra.	F. A. Wilson.		69	Hearst...
Sept. 15	7 30 a.m.		Motor				Allanwater.
Oct. 6	7 20 a.m.		Motor				44 ¹ , O'Brien S.D.
" 16	4 40 p.m.						Graham.
" 29	5 50 a.m.	10	Reg	F. A. Wilson.			Near Armstrong
Nov. 3	9 30 a.m.		Work extra.	W. Gordon.		635	25, Armstrong S.D.
" 22	1 05 p.m.						60, Cochrane
Dec. 4	11 15 a.m.		Extra..	P. Begin..	T. Dougherty..	10	Kabina...
Dec 15	6 05 a.m.	10	Reg	T. J. Corrigan.	P. Drinkwater..	410	32, Armstrong S.D.

SESSIONAL PAPER No. 20

for the fiscal year ended March 31, 1916—*Continued.*

No. 2.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict
V. Maratimas	Trackman	Jumped off car to avoid what he believed to be a collision.	Slight.	
Tony Defeho.	Trackman.	Cutting wood, axe slipped.	Cut knee, slight.	
J. Hale.	Pass. soldier	Fell off rear end of train, while under influence of liquor, skull fractured.	Fatal.	Accidental.
O. Wilfring	Trackman.	Went in swimming	Drowned	No inquest.
A. Bingham.	Trackman.	Brace dropped off car, stuck in ties, threw Bingham on track.	Hospital, slight injury	
G. Barracco.	Labourer	Working in rock cut, rock fell on him.	Back injured, slight.	
A. Beaulieu.	Telegraph employee	Getting on car, slipped under wheels.	Leg bruised, slight.	
J. H. Ross.	Passenger...	Passenger on passing train, threw rock through window.	Cut Ross over eye, slight.	
C. Donald.	Passenger...	Fell off rear end of train, while in motion.	Cut on head, slight.	
A. Colborne	Passenger...	Claimed he was thrown off train by harvesters.	Not injured.	
D. Lorette	Farmer, trespassing	On speeder, struck by Ext. 69.	Hip bruised, slight.	
P. Larson.	Trackman.	Bar fell off car, caught Larson, pulling him under wheels.	Head and shoulder cut, severe.	
Chas. Lesluck	Trackman.	Claw bar fell off front of car, stuck in tie, threw him off.	Leg broken, slight scalp wound.	
A. Payne.	Engineer...	Tripped on piece of coal, getting on engine.	Knee slightly injured.	
M. Boudit	Passenger...	Jumped from berth in colonist car, when car derailed.	Knee bruised slightly.	
R. Carter	Passenger...	Car derailed, no complaint at time.	In hospital, claims back hurt.	
J. Bentley.	Wreck crane man.	Brake slipped when air was applied on crane.	Chest injury, slight.	
A. Passnet...	Foreman, wreck train	Brake slipped when air was applied on crane.	Arm bruised, slight.	
E. Florio.	Labourer...	Removing rails at rock cut, dropped on foot.	Slight injury, foot.	
C. Milne.	Fireman.	Fell off tender of engine, while getting water.	Shoulder sprained.	
P. Drinkwater...	Engineer...	Jumped from engine at derailment	Compound fracture, right leg.	
A. R. McDoneff	Fireman...	Deraiment.	Generally bruised.	
J. S. Michelin...	Labourer...	Deraiment.	Ear cut, chest crushed.	
A. Murray...	Passenger...	Deraiment.	Head cut and ribs bruised.	
T. Murray, child	Passenger...	Deraiment.	Back hurt.	
Mrs. A. Murray.	Passenger...	Deraiment.	Shoulder and back bruised	
Baby Murray.	Passenger...	Deraiment.	Head and face bruised	
C. E. Goodfellow	Passenger...	Deraiment.	Leg and cheek bruised	
Miss J. Thompson.	Passenger.	Deraiment.	Nose bruised, tooth out.	
E. H. Wilson	Passenger.	Deraiment.	Face bruised and back hurt.	
C. F. McMillan.	Passenger.	Deraiment.	Face cut by glass.	
Mrs. McMillan.	Passenger.	Deraiment.	Cold and sore throat.	
Baby McMillan.	Passenger.	Deraiment.	Bruised abdomen	
Mrs. E. Day...	Passenger...	Deraiment.	Wrist cut by glass.	
Mrs. F. Fernet...	Passenger...	Deraiment.	Shock, frightened.	
Mrs. J. C. Dirs-coll.	Passenger...	Deraiment	Abdomen and ribs bruised	
A. S. McGowan	Passenger.	Deraiment	Nose bruised.	
Mrs. McGowan.	Passenger...	Deraiment	Leg and forehead bruised.	
Mrs. H. Hislop.	Passenger...	Deraiment.	Forehead bruised.	
Sam Askin	Passenger...	Deraiment	Shoulder bruised.	
Mrs. J. W. Fea.	Passenger.	Deraiment	Arm bruised.	

7 GEORGE V, A. 1917

NATIONAL TRANSCONTINENTAL RAILWAY.—Statement of Casualties

District No.

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915 Dec. 15	a.m. 6.05	10	Reg.....	T. J. Corrigan....	P. Drinkwater..	410	32, Armstrong, S.D.
1916 Jan. 5	3.20	Extra.....		F. A. Wilson.....		405	Jacksonboro.....
" 6	p.m. 5.30						Grant shops.....
" 6	7.10						Grant shops.....
" 7	a.m.	Extra.....		P. Begin.....	Wye.....		Bucke.....
" 30	8.20						Cochrane rd. house.
" 31	9.30						Tudhope.....
Feb. 25	11.50 p.m.	Extra.....		W. Feren.....	C. D. Fulmer...	817	Bucke.....
Mar. 9	11.50 a.m.						Cochrane rd. house.
" 16	11.00 Noon.						Jacobs.....

District

1915 May 18	a.m. 11.30 p.m.						Fort William sheds.
July 1	4.00	Extra.....	Work.....	J. A. Hood.....			75, Graham S.D....
" 19	1.30						21, Dona sec.....
" 23	3.00						28, Vivian Section...
" 28	a.m. 7.15 p.m.						Ophir.....
Aug 2	3.00						Raith.....
" 7	4.00						Fort William.....
" 17	5.05						M.P. 105, Raith....
Sept. 8	a.m. 9.15	Extra.....		H. Cameron....		36	Morgan.....
" 16	10.00 p.m.						110, Fort William..
Oct. 5	2.15						Westfort.....
" 9	a.m. 11.30 p.m.						Mission freight shed.
" 25	3.00	Engine..		R. Thorples....			Transcona.....

SESSIONAL PAPER No. 20

for the fiscal year ended March 31, 1916—Continued.

2.—Continued.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
Mrs. L. Loomis.	Passenger...	Derailment...	Shock—60 years old.	
Mrs. G. O. Thompson.	Passenger...	Derailment...	Back hurt.	
M. J. Stewart...	Passenger...	Derailment...	Side hurt.	
J. Edwards.	Dining car employee.	Derailment...	Hip hurt.	
R. Vergo.	Dining car employee.	Derailment...	Injured internally.	
W. Wright	Dining car employee.	Derailment...	Head and face bruised.	
V. Hodges.	Dining car employee.	Derailment...	Head and arm bruised.	
H. J. Lewis.	Dining car employee.	Derailment...	Arm bruised.	
T. H. Grant.	Dining car employee.	Derailment...	Back hurt.	
H. C. West.	Brakeman...	Leg cut on piece of glass in snow.	Slight.	
J. Flood	Boiler-maker.	Fell into pit at Roundhouse.	Head cut, slight.	
D. McLeod.	Shop employee.	Fell into pit at Roundhouse.	Left arm bruised.	
C. A. Rodman	Fireman...	Toes frozen.	Slight.	
J. Sanderson.	Tuber...	Struck thumb with hammer.	Slight.	
F. Stezzi.	Trackman...	Splitting wood, cut knee.	Slight.	
O. Swanson.	Fireman...	Bolt broke on tank spout, spout fell and cut head.	Slight.	
E. Okunkel.	Fitter.....	Working on engine, cut wrist with file.	Slight.	
E. A. Dugas.	Operator...	Off duty; cleaning gun, accidentally discharged shot through the hand.	Slight.	

No. 3.

F. Susak	Porter....	Struck in stomach while loading pipe.	Ruptured.	
C. Nacci	Labourer..	Loading sand accidentally struck by shovel.	Finger badly cut.	
J. Zadorsny	Labourer	Removing ties, struck on hip with pickaroon.	Slightly cut.	
F. Jacques.	Child, 10 years old	Playing on rails which fell from rock, hitting him on head.	Killed.	Accidental death.
J. Pederson.	Trackman.	Fell off motor car, knee cut, ribs crushed.	Died.	
W. P. Edye.	Fireman.	Fell off running board of engine, ribs broken.	Admitted own carelessness.	
H. Fabbio.	Labourer	Fell in hole of ship, while assisting to load.	Killed instantly.	
J. McDougall.	Bridgeman	Adze slipped, cut left foot.	Slight.	
W. Farquharson	Soldier passenger	Foot jammed and cut.	Slight.	
R. Gibson.	Trackman.	Piece of spike flew off, struck him in eye.	Slight.	
A. Kauchar.	Porter.	While trucking bundle of steel truck upset.	Head and shoulder slightly injured.	
J. Foosick.	Cheeker..	Fell between cars, back injured.	Slight.	
R. Croak.	Fireman.	Fell off tender of engine, head and hand injured.	Slight, returned to duty, Nov. 4.	

7 GEORGE V, A. 1917

NATIONAL TRANSCONTINENTAL RAILWAY.—Statement of Casualties

District No.

Date.	Time of Day.	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1915							
Oct. 23	4 00						Graham.
" 25	7 45 a.m.						Mission.
" 30	7 20		Motor Car.				234, Fort William
" 30	1 30		Switching engine	E. T. Evans.		827	Mission yard.
" 31	5 50	Extra		E. C. Rozzell.	T. J. Plunkett.	213	Raith.
Nov. 3	5 10 p.m.		1-76	J. McCann.		812	Minaki.
" 9	1 20 a.m.	Extra	West	W. J. Cole.	A. E. Day.	1099 and 633	91, Winnipeg.
" 18	9 40	Extra		J. R. Stinson.	W. E. Thearp.	47	Millidge.
" 30	9 40	Extra		C. L. Bruce.	John Harkins.	26	Taggart.
Dec. 10	6 20		Yard engine	J. Connolly.	F. Deacon.	818	Mission.
" 13	6 00						Graham shop.
" 14	10 30						Graham.
" 22	a.m.						Near Ena.
" 24	1 00 p.m.						Graham.
" 25	5 30						Millidge
1916							
Jan. 13	3 50						Alcona.
" 13	1 00	76	Reg.	F. B. Belyea.	R. Dumontier.	223	237, Graham.
" 16	4 18 a.m.	76	Reg	Fraser.	C. N. Cox.	156	Malachi.
" 20	12 15		Yard engine		Campbell.	75	Graham yard.
Feb. 9	p.m.				Parell.	17	Unaka.
" 16	10 35				W. P. Edye.		Graham.
" 17	a.m.	91	Reg.	A. W. Wellington.	G. J. Fairbairn.	212	149, Raith sub
" 17	7 10						Winnipeg.
Mar. 4	10 00						Quibell.
" 10	11 00 p.m.						Mission.
" 25	2 30		Yard engine	Seluster.	Williams.	811	Transecona yards
" 30	3 00						225, Graham
" 30	3 00						225, Graham.

SESSIONAL PAPER No. 20

for the fiscal year ended March 31, 1916—*Continued.*3.—*Continued.*

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Date of injury.	Verdict.
E. Brison.	Pump repairer.	Gas engine back fired, threw him over fly wheel.	Rib fractured.	
H. Papas.	Porter.	Unloading steam hoist, broke and struck him.	Slight.	
E. Veilleux.	Trackman.	Motor derailed, caused by jack falling off car.	Shoulder dislocated.	
A. Small.	Trackman.	Motor car derailed, caused by jack falling off car.	Scalp wound, body bruised.	
O. Drozda.	Trackman.	Motor car derailed, caused by jack falling off car.	Fatally injured.	
W. Brady.	Yardman.	Struck by elevator bin, knocked off car ladder.	Face bruised.	
J. S. Gould.	Brakeman.	Severe application of brakes caused him to fall in van, ribs broken, chest and kidneys injured.	Severe.	
E. N. Brown.	Brakeman.	Sprained ankle, when got off van.	Slight.	
W. J. Cole.	Conductor.	Engine broke apart, setting brakes in emergency.	Face and shoulder injured.	
Neil McAskil.	Brakeman.	Engine broke apart, setting brakes in emergency.	Back and leg sprained.	
J. R. Stinson.	Conductor.	Shaken up through severe application of brakes.	Slight.	
P. LeBlance.	Fireman.	Burned in check, through steam from overflow.	Slight.	
S. Burke.	Fireman.	Engine collided with stock cars, taken to hospital.	Legs bruised slightly.	
H. G. Janman.	Roundhouse employee.	While pulling bar on engine, finger caught in key.	Cut off finger, first joint.	
J. Gustin.	Labourer.	Accidentally struck on head by another labourer.	Slight.	
J. Howard.	Track watchman.	Body found on track, terribly mangled.		Accidental death.
P. Antonio.	Labourer.	Fell between cars.	Ruptured.	
P. Ornuik.	Trackman.	Slipped on ice at station and fell.	Ankle sprained.	
C. Johnson.	Section foreman.	Cleaning plow, caught foot in cogs.	Ankle badly smashed.	
F. B. Belyea.	Conductor.	Caboose derailed over embankment.	Instantly killed.	
Wm. Blair.	Fireman.	Jumped when driver of engine broke.	Shaken up, out hospital, two days.	
A. Louisa.	Watchman.	Riding on pilot of engine, fell under.	Fatally injured.	
S. Kalik.	Trackman.	Pulling spike, caught finger under bar.	Slight.	
J. Stewart.	Brakeman.	While off duty, getting through between cars while in motion, foot and ankle jammed.	Foot amputated above ankle.	
G. J. Fairbairn.	Engineer.	Killed in head-on collision, caused through misreading meeting order.	Killed.	
H. Buzza.	Cleaner.	Stepped out of road of engine on on Water St. Bridge, missed footing, fell to ground.	Shaken up.	
W. J. Moran.	Brakeman.	While switching cars, slipped on ice.	Ankle sprained.	
E. Sabbe.	Porter.	Loading machinery, jammed finger.	Slight.	
W. A. Notley.	Brakeman.	Coupling cars, caught finger in opening handle.	Middle finger cut off.	
N. McDonald.	Bridgeman.	Lining bar slipped, causing him to fall on rail and spike.	Two ribs broken.	
E. McDonald.	Bridgeman.	Rope slipped through block, causing him to fall six feet.	Shoulder dislocated.	

7 GEORGE V, A. 1917

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS EMPLOYEES' PROVIDENT FUND.—
NINTH ANNUAL REPORT.

MONCTON, N.B., May 31, 1916.

The personnel of the Provident Fund Board for the year ended March 31, 1916, was as follows:—

F. P. Gutelius, General Manager, Canadian Government Railways, Chairman, Moncton, N.B.,

S. L. Shannon, Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B., appointed by the Minister.

H. H. Melanson, General Passenger and Ticket Agent, Canadian Government Railways, Moncton, N.B., appointed by the Minister.

Willard P. Hutchinson, Train Despatcher, Canadian Government Railways, Moncton, N.B., elected by the Employees.

Bliss A. Bourgeois, Assistant to Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B., elected by the Employees.

Four regular meetings of the Board, as required by the Regulations, were held during the year.

The following is a statement of the Receipts and Expenditures during the year ended 31 March, 1916.

Balance at the Credit of the Fund on March 31, 1915.	\$376,826 29
The contributions made by employees during the year, being one and one-half per cent of their monthly salary and wages, were.	\$114,579 21
The contributions made by the railways, were.	100,000 00
	<hr/>
	214,579 21
Amount received for refunds, etc.	1,155 47
Interest accrued (at three per cent).	9,832 22
	<hr/>
	\$602,393 19

The amount contributed by the Employees is shown to exceed by \$14,579.21 the amount contributed by the Railways. By reference to Section No. 4 of the Provident Fund Act, it will be noted that the maximum sum the Railways are authorized to contribute to the Fund in any one year must not exceed \$100,000.00.

The Expenditures were:—

For retiring allowances.	\$236,942 65
For contributions refunded in cases of deceased employees.	4,865 24
For contributions refunded, which were deducted in error.	2,119 65
For contributions refunded to discharged employees, etc.	1,391 28
Medical examinations for probationers entering service, etc.	1,328 00
Medical examinations for employees retiring from service.	75 00
For election expenses.	369 14
For salaries and travelling expenses, secretary's office.	6,248 37
For Board members—Time lost and travelling expenses. . . . .	.....
For stationery, printing, postage, etc., etc.	551 12
	<hr/>
	\$253,890 45
Balance to credit of the Fund on March 31, 1916.	<hr/>
	348,502 74

SESSIONAL PAPER No. 20

The following statement shows the amount which was contributed by the Railways, and the amount which was contributed by the Employees to the Provident Fund, in each fiscal year, since the Fund has been in operation. It also shows the number of employees retired, the number of deaths among the same, and the amount paid for retiring allowances in each year. The average amount of the retiring allowances, paid in the month of March in each year, is also shown.

For Fiscal Year.	Amount contributed by Railways.	Amount contributed by Employees.	No. of Employees placed on Fund.	No. of retired Employees Died.	Amount paid for retiring Allowances.	Average monthly allowance paid in March.	Balance at credit of fund.
	\$ cts.	\$ cts.			\$ cts.	\$ cts.	\$ cts.
1907-8	82,707 74	82,707 74	142	11	23,913 04	25 49	139,249 21
1908-9	75,306 41	75,306 41	88	17	64,067 63	25 63	225,898 31
1909-10	69,949 70	6,949 70	168	17	103,628 20	26 30	255,585 08
1910-11	71,296 42	71,296 42	51	23	121,014 34	26 56	273,480 01
1911-12	81,119 81	81,119 81	29	23	125,131 32	26 04	309,234 71
1912-13	85,365 23	85,365 23	63	36	133,539 69	26 78	346,028 57
1913-14	99,805 03	99,805 03	108	37	152,674 81	27 37	389,221 76
1914-15	100,000 00	105,631 91	185	42	214,976 28	28 99	376,826 29
1915-16	100,000 00	114,579 21	100	50	236,942 65	29 36	348,502 74

It will be noted by the above statement of Receipts and Expenditures that the amount of the contributions received from the railways and from the employees during the year, was.	\$214,579 21
And the Expenditures were.	253,890 45
Showing that during the year the Expenditures exceeded the Receipts.	39,311 24
• The gross surplus, including interest, to the credit of the Fund on March 31, 1916, was.	\$348,502 74

The Act provides that two members of the Provident Fund Board shall be elected annually, and it was therefore necessary in January, 1916, to arrange for the election of these two members to serve during the year ended 31 March, 1917.

Notice calling for the nomination of Candidates was accordingly posted as required by the Rule, and the election was held in February, 1916.

The two members elected were:—

Willard P. Hutchinson, Train Despatcher, Canadian Government Railways, Moncton, N.B.

Bliss A. Bourgeois, Assistant to Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B.

The personnel of the Board as at present constituted is as follows:—

F. P. Gutelius, General Manager, Canadian Government Railways, Chairman, Moncton, N.B.

S. L. Shannon, Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B., appointed by the Minister.

H. H. Melanson, General Passenger and Ticket Agent, Canadian Government Railways, Moncton, N.B., appointed by the Minister.

Willard P. Hutchinson, Train Despatcher, Canadian Government Railways, Moncton, N.B., elected by the Employees.

Bliss A. Bourgeois, Assistant to Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B., elected by the employees.

F. P. GUTELIUS,
Chairman.

W. O. PAVER,
Secretary.

7 GEORGE V, A. 1917

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS EMPLOYEES' RELIEF AND
INSURANCE ASSOCIATION.—TWENTY-SEVENTH ANNUAL REPORT.

The total receipts for the year ended June 30, 1916, from all sources were.	\$119,787 56
Add the credit balance on the 30th June, 1915.	57,323 80
	<hr/>
The total expenditures were.	\$177,111 36
	120,220 77
	<hr/>
Leaving a credit balance of.	\$ 56,890 59
Less estimated outstanding liabilities.	8,850 00
	<hr/>
Net surplus, June 30, 1916.	\$ 48,040 59

SICK AND ACCIDENT FUND.

The expenditures in this Fund last year were \$39,519.72, and this year they are shown to be \$51,924.42, an increase of \$12,404.70. A credit balance of \$32,584.21 is shown in this Fund on the 30th day of June, 1916.

Of this increased expenditure \$6,169.40 was paid to members for sick and accident benefits, and an increase of \$4,405.22 is shown in the amount paid to Doctors for medical services. This latter increase is largely due to the fact that the Association recently raised the fees to be paid for medical services. The amount paid for surgical work is \$1,830.08 in excess of the amount paid last year. This increase is due to the increased fees paid for surgical operations.

TEMPORARY EMPLOYEES' ACCIDENT FUND.

The expenditure in this Fund during the year are shown to have been \$10,613.95.

DEATH AND TOTAL DISABILITY FUND.

This statement shows that one hundred and eleven Death and Total Disability Claims were assessed and paid during the year:—

Ninety-two death claims due to natural causes, aggregating . .	\$45,250 00
Ten death claims due to accidental injuries, aggregating. . . .	4,000 00
Six death claims due to war, aggregating.	1,500 00
	<hr/>
Three total disability claims, aggregating.	\$50,750 00
	2,250 00
	<hr/>
	\$53,000 00
Amount paid last year from this fund was.	37,750 00

STATEMENT showing the amount credited to the Intercolonial and Prince Edward Island Railways Employees' Relief and Insurance Association, by the Intercolonial and Prince Edward Island Railways, during the year ended June 30, 1916.

Amount of premiums collected from the Intercolonial and Prince Edward Railways' Pay Lists.	\$100,201 44
Premiums collected from Railways' and Provident Fund Vouchers.	319 40
Annual contribution from the Intercolonial and Prince Edward Railways.	10,000 00
Intercolonial Railway Cash Premiums.	6 73
	<hr/>
	\$110,530 57

SESSIONAL PAPER No. 20

STATEMENT showing the amount of deposits in, and the amount of withdrawals from the Bank of Montreal, during the year ended June 30, 1916.

Dr.

June 30, 1915, to balance in bank	\$ 56,219 92
June 30, 1916, to deposits and interest during the year	124,942 20
	<u>\$181,162 12</u>

Cr.

June 30, 1916, by cheques paid during the year	113,874 42
Balance in bank, June 30, 1916	\$ 61,187 70
NOTE.—Amount of deposits shown above	\$124,942 20
Less this amount collected in 1914-15, but not deposited until 1915-16	15,415 42
	<u>\$109,426 78</u>
Add this amount collected in 1915-16 but not deposited until 1916-17	10,360 78
Total receipts, 1915-16	<u>\$119,787 56</u>

Certified correct,

W. F. SEARS,
Auditor.

W. C. PAVER,
Secretary.

STATEMENT OF RECEIPTS AND EXPENDITURES.

RECEIPTS.

June 30, 1915, By Balance		\$ 57,323 89
June 30, 1916, " Premiums from railways' pay lists	\$100,204 44	
" Premiums from railways vouchers	319 40	
" Cash, auditor of disbursements	6 73	\$100,530 37
" Cash from members not on duty		234 50
" Railways contribution		10,000 00
" Premiums from S. & A. vouchers, refunds, etc.		876 84
" Death levies from retired members		5,726 83
" Annual fees from retired members		818 40
" Examination fees		36 00
" Interest on monthly balances		1,564 42
		<u>\$119,787 56</u>
		\$177,111 36

EXPENDITURES.

June 30, 1916, To Sick and Accident indemnity	\$ 27,084 00
" Medical and surgical attendance	24,840 42
" Death and total disability claims	53,000 00
" Examination fees	24 00
" Temporary Employees' Accident Fund	6,401 31
" Operating expenses	8,871 04
	<u>120,220 77</u>
	<u>\$ 56,890 59</u>

Certified correct,

W. F. SEARS,
Auditor.

W. C. PAVER,
Secretary.

7 GEORGE V, A. 1917

DETAILS.

SICK AND ACCIDENT FUND.

RECEIPTS.

Credit balance from last year.		\$36,466 03		
Premiums from pay list and vouchers and and cash from members not on duty, etc.	\$38,384 53			
Proportion of railways' contribution. . . .	6,160 00			
Interest on monthly balances.	1,564 42			
Amount transferred from Temporary Em- ployees' Accident Fund.	1,933 65	\$48,042 60	\$84,508 63	

EXPENDITURES.

Sick and Accident indemnity.	\$27,084 00			
Medical and surgical attendance.	24,840 42	\$51,924 42	\$32,584 21	

TEMPORARY EMPLOYEES' ACCIDENT FUND.

Receipts.

Credit balance from last year.	\$10,000 00			
Premiums from pay lists and vouchers. . .	12,547 60	\$22,547 60		

Expenditures.

Accident indemnity.	\$ 2,925 00			
Surgical attendance.	1,976 31			
Death indemnity—				
Frank Barden.	\$250 00			
Ernest Miller.	250 00			
William H. Dickson.	250 00			
Donald Cameron.	250 00			
Felix LeGouffe.	250 00			
Fred. Pat. Downey.	250 00			
	1,500 00			
Amount transferred for operating expenses	4,212 64			
Amount transferred to Sick and Accident Fund.	1,933 65	12,547 60	\$10,000 00	

DEATH AND TOTAL DISABILITY FUND.

Receipts.

Credit balance from last year.	\$10,857 77			
Premiums from pay lists, vouchers, retired members, etc.	\$56,436 61			
Examination fees.	36 00	56,472 61	\$67,330 38	

Expenditures.

Death claims.	\$50,750 00			
Total disability claims.	2,250 00			
Examination fees.	24 00	\$53,024 00	\$14,306 38	

MANAGEMENT.

Receipts.

Proportion of railways' contribution. . . .	\$3,840 00			
Annual fees from retired employees. . . .	818 40	\$4,658 40		

Expenditures.

Operating expenses.	\$8,871 04			
Less amount transferred from the Tempo- rary Employees' Accident Fund to oper- ating expenses, etc., for the year ended June 30, 1916.	4,212 64	\$4,658 40		

Surplus.

\$56,890 59

Certified correct,

W. S. SEARS,
Auditor.W. C. PAVER,
Secretary.

SESSIONAL PAPER No. 20

AMOUNT paid for Sick and Accident Indemnity, and for Medical and Surgical attendance, on each district separately, and the average cost per member, for the year ended June 30, 1916.

District.	Average No. of members.	Amount paid.	Cost per member.
		\$ cts.	\$ cts.
No. 1.—Halifax.....	500		
Sick and accident indemnity.....		1,792 00	3 58
Medical and surgical attendance.....		2,032 65	4 07
No. 2.—Truro.....	400		
Sick and accident indemnity.....		1,497 75	3 74
Medical and surgical attendance.....		1,517 03	3 79
No. 3.—New Glasgow.....	500		
Sick and accident indemnity.....		1,456 25	2 91
Medical and surgical attendance.....		1,417 27	2 83
No. 4.—Moncton.....	2,400		
Sick and accident indemnity.....		10,156 50	4 23
Medical and surgical attendance.....		8,744 91	3 64
No. 5.—St. John.....	350		
Sick and accident indemnity.....		1,286 75	3 68
Medical and surgical attendance.....		1,076 64	3 08
No. 6.—Newcastle.....	240		
Sick and accident indemnity.....		910 50	3 79
Medical and surgical attendance.....		1,204 73	5 02
No. 7.—Campbellton.....	320		
Sick and accident indemnity.....		1,537 50	4 80
Medical and surgical attendance.....		1,446 25	4 52
No. 8.—Riviere du Loup.....	900		
Sick and accident indemnity.....		3,230 00	3 59
Medical and surgical attendance.....		2,560 20	2 84
No. 9.—Levis.....	800		
Sick and accident indemnity.....		3,049 25	3 81
Medical and surgical attendance.....		2,321 83	2 90
No. 10.—Sydney.....	270		
Sick and accident indemnity.....		633 00	2 34
Medical and surgical attendance.....		878 06	3 25
No. 11.—Prince Edward Island.....	380		
Sick and accident indemnity.....		1,534 50	4 04
Medical and surgical attendance.....		1,640 85	4 32
Grand total.....	7,060		
Sick and accident indemnity.....		27,084 00	3 84
Medical and surgical attendance.....		24,840 42	3 52

Certified correct,

W. F. SEARS,

Auditor.

W. C. PAVER,

Secretary.

7 GEORGE V, A. 1917

DETAILED STATEMENT of the Expenses of Management for the year ended
June 30, 1916.

Salaries—General Secretary's Office—

General secretary, clerks and messengers, also proportion of salary of chief medical officer.	\$4,794 07	
Auditor.	75 00	\$4,869 07

District Secretaries—

Halifax.	132 00	
Truro.	120 00	
New Glasgow.	132 00	
Moncton.	348 00	
St. John.	120 00	
Newcastle.	120 00	
Campbellton.	120 00	
Rivière du Loup.	180 00	
Lévis.	164 00	
Sydney.	120 00	
Charlottetown, P.E.I.	120 00	
		1,676 00

Travelling expenses of officers, and travelling expenses and wages of members of the Council Executive Committee, delegates and scrutineers.	1,407 15
Stationery, printing, postage, telephone, etc.	918 82

	\$8,871 04
Less amount transferred from 'the Temporary Employees' Accident Fund for operating expenses, for the year ended June 30, 1916.	4,212 64
	\$4,658 40

Certified correct,

W. F. SEARS,
Auditor.

W. C. PAVER,
Secretary

PART VII.

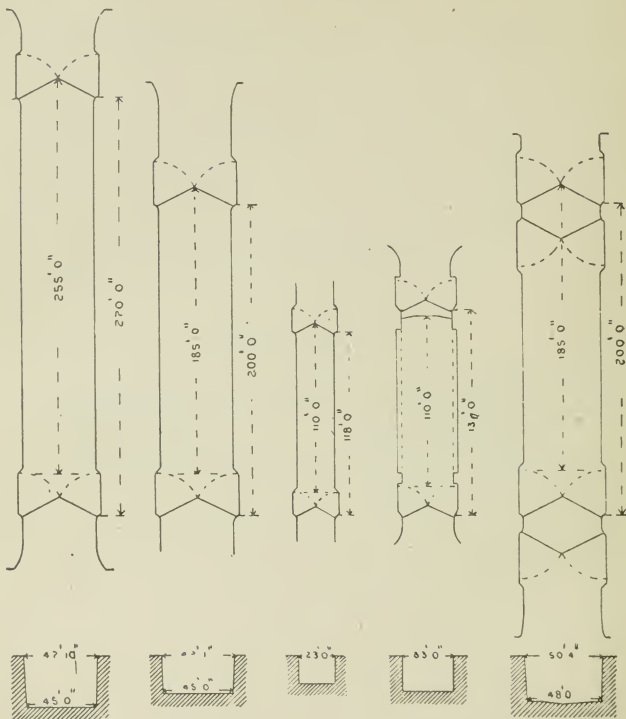
CANALS

Diagrams showing dimensions of smallest lock on each canal, etc.

Dimensions and other features of the several canal works, and description of the intermediate water navigations:

1. Between Montreal and Port Arthur or Fort William, Lake Superior.
2. Montreal, Ottawa and Kingston.
3. River Richelieu and Chambly Canal to Lake Champlain.
4. Trent Canal.
5. St. Peter's Canal.

PLANS AND SECTIONS showing Dimensions of the Smallest Lock on each



Lachine

St Anne,
St Ours,
Carillon,
& Grenville.

Chambly

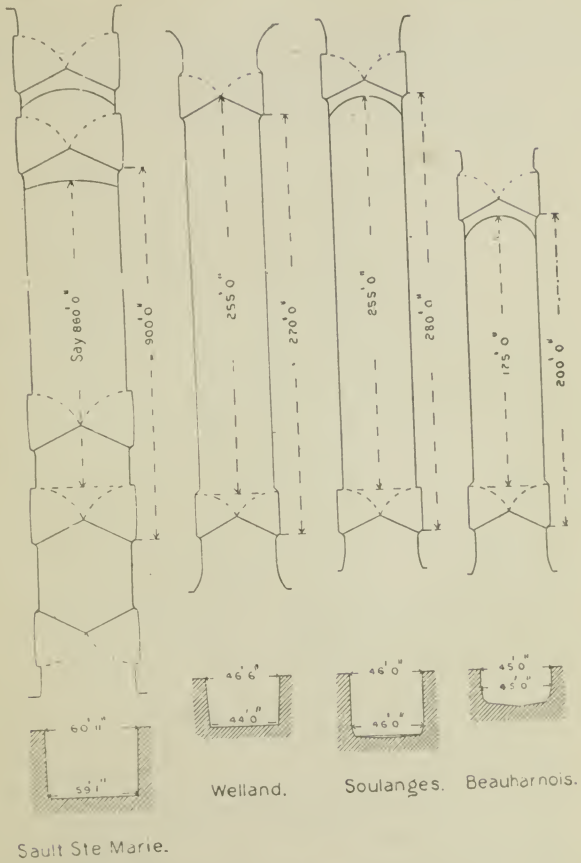
Rideau

St Peter's

There are no locks on the through route between lake Superior and

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of the Canadian Canal System except the Trent Canal, which is uncompleted.



Montreal of less dimension than those of the Welland canal locks.

CANALS.

The following statements give in concise form the essential features of the government canal works and the intermediate water navigation.

The canal systems of the Dominion, under government control, in connection with lakes and navigable rivers, are as follows:—

First.—The through route between Montreal and Port Arthur or Fort William on the west shore of Lake Superior (14 feet minimum depth of water.)

	Statute Miles.
1. Lachine canal.	8½
Lake St. Louis and river St. Lawrence.	16
2. Soulages canal.	14
Lake St. Francis and river St. Lawrence	31
3. Cornwall canal.	11½
River St. Lawrence.	5
4. Farrans Point canal.	1½
River St. Lawrence.	9½
5. Rapide Plat canal.	3½
River St. Lawrence.	4½
6. Galops canal.	7½
River St. Lawrence and lake Ontario	228
7. Welland canal.	26¾
Lake Erie, Detroit river, lake St. Clair, lake Huron, etc.	574
8. Sault Ste. Marie canal.	1½
Lake Superior to Port Arthur or to Fort William. . . .	272
Total.	1,214
To Duluth.	1,336
Chicago.	1,240

Second.—Montreal to International Boundary, near Lake Champlain.

	Statute Miles.
1. St. Lawrence river to Sorel.	46
2. Sorel, via Richelieu river, to St. Ours lock.	14
3. St. Ours lock.	½
4. Richelieu river, St. Ours lock to Chambly canal. . . .	32
5. Chambly canal.	12
6. Chambly canal to boundary line.	23
Total.	127½

Third.—Montreal to Ottawa.

	Statute Miles.
1. Lachine canal.	8½
Lake St. Louis.	15
2. St. Anne's lock at outlet of Ottawa river.	½
Lake of Two Mountains and Ottawa river.	27
3. Carillon canal.	3
Ottawa river.	6½
4. Grenville canal.	5½
Ottawa river to Ottawa.	56
Total.	119¾

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Fourth.—Ottawa to Kingston and Perth.

	Statute Miles.
1. Rideau canal,* Ottawa to Kingston	126½
Perth Branch—Rideau lake to Perth	7
Total	133½

Fifth.—Lake Ontario, at Trenton, to Lake Huron.

1. Trent canal—not completed.

Sixth.—Atlantic Ocean to Bras d'Or Lakes, Cape Breton.

	Statute Miles.
1. St. Peter's canal	½

RIVER ST. LAWRENCE AND LAKES.

The river St. Lawrence, with the system of canals established on its course above Montreal, and the lakes Ontario, Erie, St. Clair, Huron, and Superior, with connecting canals, afford a course of water communication extending from the strait of Belle Isle to Port Arthur or Fort William on the west coast of lake Superior, a distance of 2,217 statute miles. The distance to Duluth is 2,339 miles; the distance to Chicago, 2,243 miles. From the strait of Belle Isle, at the mouth of the St. Lawrence, to Montreal, the distance is 1,003 statute miles. From Quebec to Montreal the distance is 160 miles.

The control of the St. Lawrence ship channel, and the making of improvements thereto, are now under the Department of Marine and Fisheries, whose annual reports give full information as to the history and improvement of the channel. A 30-foot channel between Montreal and Father Point—with a width of 450 feet in the straight portions, and of from 600 to 750 feet in the bends between Montreal and Quebec, and of 1,000 feet everywhere below Quebec—has been practically completed. In 1909 the first work of deepening the ship channel to 35 feet was begun.

By means of channel improvements, Montreal has been placed at the head of ocean navigation, and here the canal systems of the river St. Lawrence begin, overcoming the several rapids by which the river channel upwards is obstructed, and giving access through the St. Lawrence canals, the Welland canal, the Great Lakes and the Sault Ste. Marie canal to the head of lake Superior.

The difference in level between the point on the St. Lawrence, near Three Rivers, where tidal influence ceases, and Lake Superior, is about 600 feet.

The Dominion canals, constructed between Montreal and lake Superior, are the Lachine, Soulanges, Cornwall, Farrans Point, Rapide Plat, Galops, Murray, Welland, and Sault Ste. Marie. Their aggregate length is 74 miles; total lockage (or height directly overcome by locks), 553½ feet. The number of locks through which a vessel would pass in its passage from Montreal, at the head of ocean navigation, to the head of lake Superior, is forty-eight. The Soulanges canal takes the place of the Beauharnois canal, abandoned for navigation purposes, and the Murray canal is used only by the coasting vessels of lake Ontario. It is not a part of the through route.

It is important to note that the enlargement of canals on the main route between Montreal and lake Erie comprises locks of the following minimum dimensions: length, 270 feet; width, 45 feet; depth of water on sills, 14 feet. The length of vessels to be accommodated is limited to 255 feet. At Farrans Point, in the canal of that name, the lock is 800 feet long. A similar lock is built at Iroquois, on the Galops canal, the object being to pass a full tow at one lockage. The lock at Sault Ste. Marie is 900 feet by 60 feet, with 18 feet 3 inches on the sills at lowest known water level.

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Access from lake Erie to lake Huron is obtained by way of the Detroit river, lake St. Clair, and the St. Clair river, which have been deepened to a minimum of 21 feet, principally by the United States government.

Communication between lakes Huron and Superior is obtained by means of the Canadian Sault Ste. Marie canal, and also by the St. Mary's Falls canals, situated on the United States side of the river St. Mary. Improvements of the United States channels in river St. Mary through Hay lake, east of Sault Ste. Marie, have been carried on for several years past. The dredged areas now total 34 miles in length, with a minimum width of 300 feet, which is increased at angles and other critical points to 1,000 feet. The depth is 20 feet at the mean stage of water. In the year 1903 excavation was commenced to afford 21 feet at the lowest stage of water.

The improvement of Canadian channels from above Montreal to the head of Lake Superior is controlled by the Department of Public Works. Work is now under way to dredge the channel in the River St. Mary to 21.5 feet below L.W.L., the existing minimum depth being 18.75 feet below L.W.L. Existing depths elsewhere between Lakes Erie and Superior give a minimum of 21 feet below L.W.L. The Limekiln channel in the Detroit river has been deepened to 21 feet; and the United States government has opened the Livingstone channel in the same (Detroit river) with a depth of 22 feet.

The improvements at the harbours of Fort William and Port Arthur now under way will give a minimum depth of 25 feet below L.W.L. This depth exists at present over the channels leading to the principal wharves.

The provisions and maintenance of aids to navigation on all Canadian river and lake channels is controlled by the Department of Marine and Fisheries.

The Sault Ste. Marie, Welland, Cornwall, Soulanges and Lachine canals are well lighted throughout by electricity, and are electrically operated. The Farrans Point canal is lighted with acetylene gas.

Navigation, which is closed by ice during the winter months, opens about the end of April on the Great Lakes and St. Lawrence route. Ice-breaking steamers are now employed to lengthen the navigable season at Lake Superior and Georgian Bay terminals.

STATEMENT OF PRESENT MINIMUM DEPTH OF IMPROVED CHANNELS.

Father Point to Montreal.	30 feet.
Montreal to Port Colborne.	14 "
Port Colborne to Fort William.	18½ "

LACHINE CANAL.

Length of canal.	8½ statute miles.
Number of locks.	5
Dimensions of locks.	270 feet by 45 feet.
Total rise or lockage	45 feet.
Depth of water on sills, at two locks.	18 "
Depth of water on sills, at three locks.	14 "
Average width of new canal.	150 "

The old lift locks, 200 feet by 45 feet, are still available, with 9 feet of water on mitre sills. The two lower north locks, however, have been lengthened to 270 feet, and have 16½ feet of water on the sills.

The canal consists of one channel, with two distinct systems of locks, the old and the enlarged. There are two lock entrances at each end.

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The canal extends from the city of Montreal to the town of Lachine, overcoming the St. Louis rapids, the first of the series of rapids which bar the ascent of the river St. Lawrence. They are 986 miles distant from the strait of Belle Isle.

SOULANGES CANAL.

Length of canal...	14 statute miles.
Number of locks—	
Lift...	4
Guard...	1
Dimensions of locks...	280 feet by 45 feet.
Total rise or lockage...	84 feet.
Depth of water on sills...	15 "
Breadth of canal at bottom...	100 "
Breadth of canal at water surface...	164 "

The canal extends from Cascade Point to Coteau Landing, overcoming the Cascades rapids, Cedar rapids and Coteau rapids.

From the head of the Lachine to the foot of the Soulanges canal the distance is sixteen miles.

CORNWALL CANAL.

Length of canal...	11 statute miles.
Number of locks...	6
Guard gates...	1
Dimensions of locks...	270 feet by 45 feet.
Total rise or lockage...	48 feet.
Depth of water on sills...	14 "
Breadth of canal at bottom...	90 "
Breadth of canal at water surface...	154 "

The old lift locks, 200 feet by 45 feet, are also available with nine feet of water on mitre sills.

From the head of the Soulanges to the foot of the Cornwall canal there is a stretch through Lake St. Francis 31 miles, which is navigable for vessels drawing fourteen feet.

The Cornwall canal extends past the Long Sault rapids from the town of Cornwall to Dickinson's Landing.

WILLIAMSBURG CANALS.

The Farrans Point, Rapide Plat and Galops canals are collectively known as the Williamsburg canals.

FARRANS POINT CANAL.

Length of canal...	1½ mile.
Number of locks...	1
New lock...	800 feet by 50 feet.
Old lock...	200 " 45 "
Total rise or lockage...	3½ feet.
Depth of water on sills of new lock...	14 "
Depth of water on sills of old lock...	9 "
Breadth of canal at bottom...	90 "
Breadth of canal at water surface...	154 "

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From the head of the Cornwall canal to the foot of Farrans Point canal the distance on the river St. Lawrence is five miles. The latter canal enables vessels ascending the river to avoid Farrans Point rapids, passing the full tow at one lockage. Descending vessels run the rapids with ease and safety.

RAPIDE PLAT CANAL.

Length of canal..	3½ miles.
Number of locks..	2
Dimensions of locks..	270 feet by 45 feet.
Total rise or lockage..	11½ feet.
Depth of water on sills..	14 "
Breadth of canal at bottom..	80 "
Breadth of canal at water surface..	152 "

The old lift-lock, 200 feet by 45 feet, is also available with nine feet of water on mitre sills.

From the head of Farrans Point canal to the foot of Rapide Plat canal there is a navigable stretch of 9½ miles. The canal was formed to enable vessels ascending the river to pass the rapids at that place. Descending vessels run the rapids safely.

GALOPS CANAL.

Length of canal..	7½ miles.
Number of locks..	3
Dimensions of locks—	
Lift-lock at foot of canal..	800 by 50 feet.
Guard-lock at head of canal..	270 by 45 "
Lift-lock to pass vessels around Galops rapids only..	303 by 45 "
Total rise or lockage..	15½ feet.
Depth of water on sills..	14 "
Breadth of canal at bottom..	80 "
Breadth of canal at surface of water..	144 "

From the head of Rapide Plat canal to Iroquois, at the foot of the Galops canal the St. Lawrence is navigable 4½ miles. The canal enables vessels to overcome the rapids at Pointe aux Iroquois, Point Cardinal and the Galops.

MURRAY CANAL.

Length between eastern and western piers..	5½ miles.
Breadth at bottom..	80 feet.
Breadth at water surface, low water, Lake Ontario..	124 "
Depth below low water, Lake Ontario..	11 "
Number of locks..	None.

This canal extends through the isthmus of Murray, giving connection westward between the head waters of the bay of Quinté and lake Ontario, and thus enabling vessels to avoid the open lake navigation.

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WELLAND CANAL.

Main line from Port Dalhousie, lake Ontario, to Port Colborne, lake Erie.

	Old line.	Enlarged or new line.
Length of canal.	27½ miles.	26½ miles.
Pairs of guard-gates (formerly 3)	2	1
Number of locks—		
Guard.	1	1
Lift.	26	25
Dimensions.	$\left\{ \begin{array}{l} 1 \text{ (tidal) } 230 \times 45 \text{ feet.} \\ 1 \text{ lock } 200 \times 45 \text{ " } \\ 1 \text{ lock } 270 \times 45 \text{ " } \\ 24 \text{ locks } 150 \times 26\frac{1}{2} \text{ " } \end{array} \right\} 270 \text{ feet} \times 45 \text{ feet.}$	
Total rise or lockage.	326¾ feet.	326¾ feet.
Depth of water on sills.	10½ "	14 "

WELLAND RIVER BRANCHES.

Length of canal—

Port Robinson cut to river Welland.	2,622 feet.
From the canal at Welland to the river, via lock at Aqueduct.	300 "
Chippewa cut to river Niagara (6-ft. navigation only).	1,020 "
Number of locks—one at Aqueduct and one at Port Robinson.	2
Dimensions of locks.	150 x 26½ feet.
Total lockage from the canal at Welland down to river Welland.	10 feet.
Depth of water on sills.	9 feet 10 inches.

GRAND RIVER FEEDER.

Length of canal.	21 miles.
Number of locks.	2
Dimensions of locks.	1 of 150 by 26½ ft.
	1 of 300 by $\left\{ \begin{array}{l} 45 \text{ ft. lower.} \\ 28 \text{ ft. upper} \end{array} \right.$
Total rise or lockage.	10 feet.
Depth of water on sills.	6 " only.
Navigable depth of channel.	9 "

PORT MAITLAND BRANCH.

Length of canal.	1¾ miles.
Number of locks.	1
Dimensions of locks.	185 feet by 45 feet.
Depth of water on sills.	7½ feet.
Total rise or lockage.	7 "
Navigable depth of channel.	6 " only.

The Welland canal has two entrances from lake Ontario at Port Dalhousie, one for the old, the other for the new canal.

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From Port Dallhousie to Allanburg, 11½ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line.

From Allanburg to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

From the head of the Welland canal there is a deep water navigation through lake Erie, the Detroit river, lake St. Clair, the St. Clair river, lake Huron and river St. Mary to the Sault canal, a distance of about 580 miles. From the Sault the distance through lake Superior to Port Arthur is 274 miles, and to Duluth 397 miles.

SAULT STE. MARIE CANAL.

Length of canal, between the extreme ends of the entrance piers.	1½ miles or 7,472 feet.
Number of locks.	1
Dimension of locks.	900 feet by 60 feet at water level; width at lock bottom, 59 feet.
Depth of water on sills (at lowest known water level).	18 feet 3 inches.
Total rise or lockage (mean).	19 feet.
Breadth of canal at bottom.	141 feet 8 inches.
Breadth at surface of water.	150 feet.

This canal has been constructed through St. Mary's island, on the north side of the rapids of the river St. Mary, and, with that river, gives communication on Canadian territory between lakes Huron and Superior.

MONTREAL, OTTAWA AND KINGSTON.

This route extends from the harbour of Montreal to the port of Kingston, passing through the Lachine canal, the navigation section of the lower river Ottawa, and the Ottawa canals, to the city of Ottawa; thence by the river Rideau and the Rideau canal to Kingston, on lake Ontario—a total distance of 245½ miles.

After leaving the Lachine canal the works constructed to overcome difficulties of navigation are:—

OTTAWA RIVER CANALS.

The Ste. Anne's lock.	Carillon canal.	Grenville canal.
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RIDEAU CANAL.

The total lockage (not including that of the Lachine canal) is 509 feet (345 rise, 164 fall) and the number of locks is 55.

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The following table exhibits the intermediate distances from Montreal harbour:—

Sections of Navigation.	Interme- diate Distance.	Total Distance from Montreal.
	Miles.	Miles.
The Lachine canal.	8½	
From Lachine to Ste. Anne's lock	15	23½
Ste. Anne's lock and piers.	18	23½
Ste. Anne's lock to Carillon canal.	27	50½
The Carillon canal.	3	51
From Carillon to Grenville canal.	6½	57½
The Grenville canal.	5½	62½
From the Grenville canal to entrance of Rideau navigation	56	119
Rideau navigation ending at Kingston.	126½	245½
" Perth branch, from Rideau lake to Perth.	7	195

STE. ANNE'S LOCK.

	New Lock.	Old Lock.
Length of canal.	½ mile.	½ mile.
Number of locks.	1	1
Dimensions of locks.	200 x 45 feet.	190 x 45 feet.
Total rise or lockage	3 "	3 "
Depth on sills.	9 "	6 "

This work, with guide piers above and below, surmounts the Ste. Anne's rapids between Ile Perrot and the head of the island of Montreal, at the outlet of that portion of the river Ottawa which forms the lake of Two Mountains, 23½ miles from Montreal harbour.

CARILLON CANAL.

Length of canal.	¾ mile.
Number of locks.	2
Dimensions of locks.	200 x 45 feet
Total rise or lockage.	16 feet.
Depth of water on sills.	9 "
Breadth of canal at bottom.	100 "
Breadth of canal at water surface.	110 "

This canal overcomes the Carillon rapids.

From Ste. Anne's lock to the foot of the Carillon canal is a navigable stretch of 27 miles, through the lake of Two Mountains and river Ottawa.

By the construction of the Carillon dam across the river Ottawa the water at that point is raised 9 feet, enabling the river above to be used for navigation.

GRENVILLE CANAL.

Length of canal.	5¾ miles
Number of locks.	5
Dimensions of locks.	200 x 45 feet.
Total rise or lockage.	43¾ feet.
Depth of water on sills.	9 "
Breadth of canal at bottom.	40 to 50 feet.
Breadth of canal at surface of water.	50 to 80 "

This canal, by which the Long Sault rapids are avoided, is about 56 miles below the city of Ottawa, up to which point the river Ottawa affords unimpeded navigation.

RIDEAU NAVIGATION.

Length of navigation..	126½ miles.
Number of locks from Ottawa to Kingston..	{ 33 ascending. 14 descending.
Total lockage ..457½ feet. { 292½ rise and } { 165½ fall. }	at low water.
Dimensions of locks..	134 x 33 feet
Depth of water on sills..	5 feet.
Navigation depth through the several reaches..	5 feet.
Breadth of canal reaches at bottom..	{ 54 feet in rock. 60 feet in earth.
Breadth of canal at surface of water..	80 feet in earth.

Length of canal.....	7 miles.
Number of locks.....	2
Dimensions of locks.....	134 feet x 33 feet.
Total rise or lockage.....	26 "
Depth of water on sills.....	5 " 6 inches.
Length of dam.....	200 "
Breadth of canal at surface of water.....	80 "
Breadth of canal at bottom.....	<div style="display: inline-block; vertical-align: middle;"> <div style="font-size: 3em; vertical-align: middle; margin-right: 5px;">{</div> <div> 40 " in rock. 60 " in clay. </div> </div>

All these waters on the descending level, supplemented by those on lake Loughboro', flow to Cranberry lake, which, discharging through Round Tail outlet, forms the river Cataraqui. The river, rendered navigable by dams at various points, affords a line of navigation to Kingston.

This system, commencing at Sorel, at the confluence of the rivers St. Lawrence and Richelieu, 46 miles below Montreal, extends along the river Richelieu, through the St. Ours lock to the basin at Chambly; thence, by the Chambly canal, to St.

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Johns, and up the river Richelieu to lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, at the southern end of lake Champlain, connection is obtained by means of the Champlain canal with the river Hudson, by which the city of New York is directly reached.

The following table shows the distances between Sorel and New York:—

Sections of Navigation.	Inter- mediate Distance.	Total Distances.
	Miles.	Miles.
Sorel to St. Ours Lock.....	14	14
St. Ours Lock to Chambly Canal.....	32	46
Chambly Canal.....	12	58
Chambly Canal to boundary line.....	23	81
Boundary line to Champlain Canal.....	111	192
Champlain Canal to junction with Erie Canal.....	66	258
Erie Canal from junction to Albany.....	7	265
Albany to New York.....	146	411

ST. OURS LOCK AND DAM.

Length.....	$\frac{1}{2}$ mile.
Number of locks.....	1
Dimensions of lock.....	200 feet by 45 feet.
Total rise or lockage.....	5 feet.
Depth of water on sills.....	$6\frac{1}{2}$ "
Length of dam in western channel.....	690 "

At St. Ours, 14 miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours lock is in the eastern channel.

There is a navigable depth in the Richelieu of 7 feet between St. Ours lock and Chambly basin, a distance of 32 miles.

CHAMBLY CANAL.

Length of canal.....	12 miles.
Number of locks.....	9
Dimensions of locks—	
Guard lock No. 1 at St. Johns.....	122 feet
Lift lock No. 2.....	124 "
Lift locks Nos. 3, 4, 5, 6.....	118 "
Lift locks Nos. 7, 8, 9, combined.....	125 "
Total rise or lockage.....	74 "
Depth of water on sills.....	7 "
Breadth of canal at bottom.....	36 "
Breadth of canal at surface of water.....	60 "

} From $22\frac{1}{2}$
to 24 feet
wide.

This canal succeeds the 32 miles of navigable water between St. Ours lock and Chambly basin. The canal overcomes the rapids between Chambly and St. Johns.

TRENT CANAL.

The term "Trent canal" is applied to a series of water stretches, which do not, however, form a connected system of navigation, and which in their present condition, are efficient only for local use. By various works this local use has been extended, and by others, now in progress and contemplation, this will become a through route between lake Ontario and lake Huron.

The series is composed of a chain of lakes and rivers, extending from Trenton, at the mouth of the river Trent, on the Bay of Quinté, lake Ontario, to Honey harbour, about 10 miles north of Midland, on Georgian bay, lake Huron.

Many years ago the utilizing of these waters for the purpose of through water communication between lake Huron and lake Ontario was projected.

The course, as originally contemplated and modified, is as follows:—

Through the river Trent, Rice lake, the river Otonabee and lakes Clear, Stony, Lovesick, Deer, Buckhorn, Chemong, Pigeon, Sturgeon and Cameron to lake Balsam, the summit water, about 155 miles from Trenton; from lake Balsam by a canal and the river Talbot to lake Simcoe.

From lake Simcoe the route is through lake Couchiching and down the Severn river to Gloucester pool, leaving Gloucester pool by the Go-Home lakes and south Honey harbour and entering the Georgian bay at Skylark rock between the islands of Beausoleil and Minnieoganashene. There will be 8 feet 4 inches of water on the sills throughout. Another passage between Gloucester pool and Georgian bay is provided by a small lock at Port Severn, with 6 feet of water on the sill.

The full execution of the scheme, commenced by the Imperial Government in 1837, was deferred. By certain works, however, below specified, sections of these waters have been made practicable for navigation, and the whole scheme is now being carried out. A branch of the main route, extending from Sturgeon lake south, affords communication with the town of Lindsay, and through lake Seugog, to Port Perry, a distance of approximately 174 miles from Trenton.

The works by which the Trent navigation has been improved to date comprise short canals with locks at Hastings, Peterborough, Peterborough to Lakefield 7 locks, one being a hydraulic lift; Young's point, Burleigh falls, Lovesick, Buckhorn, Bobeaygeon, Fenelon Falls, Rosedale, and six locks between Balsam and Simcoe lakes, one being a hydraulic lift; also lock and dam at Lindsay.

Also dams at Healey falls, Hastings Peterborough, Peterborough to Lakefield, 6; Young's point, Burleigh, Lovesick, Buckhorn, Bobeaygeon, Fenelon Falls, Rosedale, and three between Balsam and Simcoe lakes.

Bridges also have been built at many of the locks and at other places.

For convenience the canal may be divided into the following divisions, the lengths being given:—

ONTARIO-RICE LAKE DIVISION.

Embracing the canal and river navigation between Trenton, on the Bay of Quinté, to Rice lake, 56 miles.

The all-river route from Trenton, on the Bay of Quinté, to Rice lake was fully decided upon by the government during the session of 1907, and the work of construction was begun that fall. The improvement is carried out on the principle of damming the river at suitable points by means of dams, and connecting the pools thus created by means of locks and short stretches of canal. The locks on this division will be 175 feet long, 33 feet wide, with 8 feet 4 inches of water on the sills. In the reaches there will be a minimum depth of 9 feet of water. For the purpose of construction, this division of 56 miles has been divided into seven sections, all of which are under contract. Rice lake is 369 feet above low water level of lake Ontario, which height will be overcome by 18 locks.

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PETERBOROUGH-RICE LAKE DIVISION.

Embracing that stretch of river and lake navigation from the lower end of Rice lake to Peterborough, 32 miles.

This division is navigable with a minimum depth of 6 feet.

At Hastings are a concrete lock, replacing the old masonry lock, and a concrete dam, replacing the old timber structure which formerly existed at that point; these maintain navigation on the Trent river, Rice lake and the Otonabee river to Peterborough, a distance of about 38 miles.

At Peterborough, 89 miles from Trenton, is a masonry lock and a concrete dam which maintain navigation through Little lake to lock No. 6 of the Peterborough-Lakefield division, a distance of about three-quarters of a mile.

PETERBOROUGH-LAKEFIELD DIVISION.

Embracing that stretch of river and canal navigation from Little lake at Peterborough to Lakefield, 10 miles.

Construction completed and canal in operation with a minimum depth of 6 feet for navigation.

From Peterborough to Lakefield, navigation is maintained on the Otonabee river by a series of concrete locks and timber dams as follows:—

Leaving Little lake through lock No. 6, in a distance of about half a mile, the hydraulic lift lock is reached, where there is a lift of 65 feet into a reach which extends to lock No. 5, about five miles from Peterborough, the last mile only of this reach being in the river; from here to Lakefield, locks 5, 4, 3, 2 and 1, with their respective dams, give navigation to Lakefield, about ten miles from Peterborough, or 99 from Trenton, and thence on five miles further to Young's Point.

KAWARTHA LAKES DIVISION.

Embraces that stretch of lake and river navigation from Lakefield to the entrance to the canal on the west shore of Balsam lake—62 miles.

Navigable with a minimum depth of 6 feet. Also in this division, may be included the Lindsay branch which embraces the Seugog lake and river from main channel on Sturgeon lake to Port Perry, the distance being about 30 miles, not included in the total 62 miles above mentioned. A new lock and dam at Lindsay on this branch have recently been built.

At Young's point, a masonry lock and timber dam maintain navigation through Clear and Stony lakes to Burleigh, a distance of about nine miles.

At Burleigh, a masonry lock of two lifts and concrete dam maintain navigation through Lovesick lake, about two miles, to Lovesick. A new concrete dam has recently been completed at Burleigh.

At Lovesick, a masonry lock and timber dam maintain navigation through Deer bay for about five miles to Buckhorn.

At Buckhorn, a masonry lock and new concrete dam maintain navigation for about 16½ miles through Buckhorn and Pigeon lakes to Bobcaygeon, 136 miles from Trenton, and also as branches, maintain navigation from Buckhorn lake through Chemong lake to Bridgenorth, about 8 miles, and in the Pigeon river from Pigeon lake to Omeme, about 10 miles.

At Bobcaygeon, a masonry lock and two dams, one being recently rebuilt of concrete and the other a timber one, maintain navigation through Sturgeon lake and Fenelon river, a distance of about 14½ miles to Fenelon Falls.

At Fenelon Falls is a short canal, a masonry lock of two lifts and a new concrete dam which maintain navigation across Cameron lakes to Rosedale, a distance of about 3½ miles, to a new concrete lock of the same dimensions as those of the Ontario-Rice lake division.

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At Rosedale, the new concrete lock and dam maintain navigation on Balsam lake, the summit level of the canal, which extends from Rosedale to the hydraulic lock at Kirkfield, a distance of twelve miles; half of this distance is through a canal connecting Balsam lake with the lock, which is about 166 miles from Trenton.

SIMCOE-BALSAM LAKE DIVISION.

Extends from Balsam lake to Gamebridge on lake Simcoe—18.2 miles.

Construction completed and canal in operation with a minimum depth of 6 feet.

At the Kirkfield hydraulic lock is a drop of 50.44 feet from the summit level. From this point to Gamebridge on lake Simcoe, 179 miles from Trenton, the route consists of canal and river reaches maintained by damming the Talbot river. There are five new concrete locks numbered 1, 2, 3, 4 and 5, with concrete dams at Nos. 1, 2 and 3.

SEVERN RIVER DIVISION.

This division embraces the western portion of the system extending from lake Simcoe to the Georgian Bay. It comprises three main sections, Nos. 1, 2 and 3, and the Port Severn section. Except for section 1, these are all in course of construction.

Section 3 extends from lake Couchiching to a point $1\frac{1}{2}$ miles above Ragged rapids, a distance of 15.3 miles. The dams at the various outlets of lake Couchiching will be remodelled so as to provide more efficient regulation. A cut 4 miles long with a lock of 20 feet drop at its northern end will connect deep water in lake Couchiching with the Severn river just below Severn Bridge. From this point the route follows the Severn river through Sparrow lake to the lower end of the section without lockage.

Section 2, 11.6 miles long, extends to Big Chute. Except for $\frac{1}{2}$ mile of cut near the east end of the section, the route follows the river bed throughout. The dam and power plant at Ragged rapids will be replaced by a new dam, power plant and lock of 47 feet drop two miles further down the river. This is the only lock on this section. A regulating dam is being constructed on Pretty Channel.

Section 1, 16.8 miles long, extends to deep water in Georgian bay west of Beau-soleil island. Between Big Chute and Gloucester pool the route is east of the river, and will consist of two locks of 29 feet drop each, connected by an artificial lake. The Gloucester pool level extends through the Go-Home lakes to the south Honey harbour lock where, with a drop of about 14.5 feet, the canal will enter the Georgian bay level.

The Port Severn section includes the impounding and regulating dams at Port Severn which maintain the Gloucester pool level. A small lock there will provide for small craft an additional route between Gloucester pool and Georgian bay.

HOLLAND RIVER DIVISION.

This contemplated the canalization of the Holland river between lake Simcoe and Newmarket, 12.3 miles. It has not been completed, and work on it was discontinued in December, 1911.

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The following is a list of locks now in use, with their dimensions, in order of location, from Hastings to Gamebridge on lake Simcoe.

	Length between Hollow Quoins	Width.	Depth on Sill.	Lift.
	Ft.	Ft.	Ft.	Ft.
1 Lock at Hastings.....	175	33	8 4 in.	9
1 " at Peterborough.....	134	33	6	9
1 " No. 6, Peterborough—Lakefield division.....	142	33	6	12
1 " at Peterborough, hydraulic lift lock No. 1.....	140	33	6	65
1 " No. 5, Peterborough—Lakefield division.....	142	33	6	14
1 " No. 4, " " " ".....	142	33	6	12
1 " No. 3, " " " ".....	142	33	6	12
1 " No. 2, " " " ".....	142	33	6	10
1 " No. 1, " " " ".....	142	33	6	16
1 " at Young's point.....	134	33	6	6
2 " at Burleigh, each 11½ feet.....	{ Upper 134 Lower 150 }	33	6	23
1 " at Lovesick.....	134	33	6	4
1 " at Buckhorn.....	134	33	6	9
1 " at Bobcaygeon.....	134	33	6	7
2 " at Fenelon Falls, each 12 feet.....	{ Upper 134 Lower 150 }	33	6	24
1 " at Rosedale.....	175	33	8 4 in.	4
1 " at Kirkfield, hydraulic lift No. 2.....	140	33	6	50.44
1 " No. 1, Simcoe—Balsam Lake division.....	142	33	6	21
1 " No. 2, " " " ".....	142	33	6	14
1 " No. 3, " " " ".....	142	33	6	14
1 " No. 4, " " " ".....	142	33	6	14
1 " No. 5, " " " ".....	142	33	6	11
24				
1 " at Lindsay, Scugog Branch.....	142	33	6	6.5

ST. PETER'S CANAL, CAPE BRETON.

Length of canal.....	About 2,600 feet.
Breadth at water line.....	55 feet.
Lock.....	1 tidal lock, 4 pairs of gates.
Dimensions.....	200 feet by 48 feet.
Depth of water on sills.....	18 feet at lowest water.
Depth through canal.....	19 feet.
Extreme rise and fall of tide in St. Peter's bay.....	7 feet

This canal connects St. Peter's bay on the southern side of Cape Breton, Nova Scotia, with the Bras d'Or lakes. It crosses an isthmus half a mile in width, and gives access from the Atlantic. A new Atlantic entrance and lock, 300 feet by 48 feet, are now under construction. These will replace the existing lock and entrance.

PART VIII.

MISCELLANEOUS STATEMENTS.

Table of distances, Intercolonial and Prince Edward Island Railways.

INTERCOLONIAL RAILWAY.

Expenses, gross earnings, freight tonnage, profit or loss, and passengers, yearly since July 1, 1876.
Earnings, passenger, freight, mails and sundries, yearly since July 1, 1876.
Local and through freight, yearly since July 1, 1876.
Local and through passengers, yearly since July 1, 1876.
Coal carried from Nova Scotia collieries, yearly since July 1, 1876.
Grain carried for shipment, yearly since July 1, 1876.
Flour and meal carried, yearly since July 1, 1876.
Grain carried, yearly since July 1, 1876.
Lumber carried, yearly since July 1, 1876.
Live stock carried, yearly since July 1, 1876.
Raw and refined sugar carried, yearly since July 1, 1876.
Fresh and salt fish carried, yearly since July 1, 1876.
Ocean-borne goods carried, yearly since July 1, 1876.

WINDSOR BRANCH.

Earnings, expenses and profits or losses, yearly from 1880.

PRINCE EDWARD ISLAND RAILWAY.

Expenses, earnings, freight and passenger traffic and loss, yearly from 1875.

CANALS.

Statement showing total cost of construction and enlargement from Montreal to Port Arthur.
Statement showing total cost of construction and enlargement from Lachine to Ottawa.
Statement showing total cost of construction and enlargement from Ottawa to Kingston.
Statement showing total cost of construction and enlargement from St. Johns to Sorel.
Statement showing total cost of construction and enlargement from Lake Ontario to Georgian Bay.
Statement showing total cost of construction and enlargement from Atlantic Ocean to Bras d'Or Lakes.
Freight traffic in 1914 and 1915.
Dates of opening and closing of canals for the season of 1915.

INTERCOLONIAL RAILWAY.

The International railway touches six Atlantic Ocean ports, namely Pointe du Chêne, Pictou, Halifax, St. John, Sydney and North Sydney, as well as the river St. Lawrence ports of Lévis, opposite Quebec, and Montreal.

The total length of the road operated during the year ended March 31, 1916, was 1,518.39 miles.

The following are the through distances:—

	Miles.
Montreal to Halifax, via Lévis.	838.60
“ St. John, via Lévis.	741.09
“ Sydney, via Lévis.	1,001.45
“ North Sydney, via Lévis.	986.29

Freight is carried direct via St. Henri, which would reduce each of the above distances by 5.45 miles.

MAIN LINE AND BRANCHES.

	Miles.
Halifax to Truro.	62.12
Dartmouth branch.	81.57
Truro to Moncton.	124.75
Moncton to St. John.	89.36
Pointe du Chêne branch.	11.89
Pacific Junction to Campbellton.	175.25
Campbellton to Mont Joli.	105.38
Mont Joli to Rivière du Loup.	83.44
Rivière Ouelle branch.	6.48
Rivière du Loup to Chaudière Junction.	118.13
Hadlow to Chaudière Curve.	5.76
Chaudière to Ste. Rosalie.	115.80
St. Charles Junction to Pointe Lévis.	14.69
Nicolet branch.	16.76
Dalhousie branch.	6.74
Pictou to Brown's Point.	2.23
Oxford Junction to Stellarton.	79.40
Junction near New Glasgow to Pictou Landing.	8.30
Pugwash Junction to Pugwash.	4.60
Truro to Mulgrave.	122.35
Point Tupper to Sydney.	101.84
Fredericton to Derby Junction.	110.64
Nelson Junction to Loggieville.	13.77
Ferrona Junction to Sunny Brae.	12.52
New Glasgow to Thorburn.	5.35
	<hr/> 1,479.12

LEASED.

Length of Main line from Pointe Lévis to Hadlow.	0.97
Chaudière Curve to Chaudière.	1.27
Ste. Rosalie Junction to Montreal.	37.03
	<hr/> 39.27
Total miles.	1,518.39
Mulgrave to Point Tupper (Ferry).	0.80
	<hr/> 1,519.19
International Railway.	111.30
N.B. & P.E.I.	36.05
St. John & Quebec.	119.87

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FREIGHT BRANCHES OWNED.

	Miles.
Switch near North street to D. W. T., Halifax.. . . .	0.85
Halifax Cotton Factory.. . . .	2.10
North Sydney Station to wharf.. . . .	0.82
Switch near Pictou Landing to coal wharf.. . . .	0.75
Pictou Station to wharf.. . . .	0.15
Logan's Tannery siding.. . . .	0.48
Pugwash Station to wharf.. . . .	0.07
Sackville Wharf branch.. . . .	0.47
Dorchester Wharf branch.. . . .	1.00
Moncton Wharf branch.. . . .	1.00
Courtenay Bay branch.. . . .	2.39
St. John water front extension.. . . .	0.44
St. John Station to Deep Water wharf.. . . .	0.28
Newcastle Wharf branch (included in Dalhousie sub- division).. . . .	1.75
Campbellton Wharf branch.. . . .	0.43
Rimouski Wharf branch.. . . .	2.49
Trois Pistoles spur.. . . .	2.38
Rivière du Loup Wharf branch.. . . .	4.16
St. Pacôme Spur (included in Nicolet subdivision).. . . .	1.27
Carmel Branch, main line to village.. . . .	1.05
Fort Lawrence Spur.. . . .	1.18
Wallace Spur.. . . .	2.00
Pugwash branch to brickworks.. . . .	1.02
Bathurst Spur.. . . .	2.43
Georges River to Scotch Lake.. . . .	1.65
Quebec Bridge connection.. . . .	2.37
	<hr/>
	34.93

PRINCE EDWARD ISLAND RAILWAY.

LENGTH OF LINE.

	Miles.
Charlottetown to Tignish.. . . .	116.1
Mount Stewart Junction to Georgetown.. . . .	24.4
Royalty Junction to Souris.. . . .	54.7
Emerald Junction to Cape Traverse.. . . .	11.8
Charlottetown to Murray Harbour.. . . .	47.8
Montague Junction to Montague.. . . .	6.2
Harmony Junction to Elmira.. . . .	9.9
Lake Verde to Vernon.. . . .	3.7
	<hr/>
	274.6

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INTERCOLONIAL RAILWAY.

The following table shows the working expenses, gross earnings, the tonnage of freight and number of passengers carried each year from July 1, 1876, to March 31, 1916.

Year.	Average miles in Operation.	Working Expenses.	Gross Earnings.	Profit.	Loss.	Tons of Freight Carried.	No. of Passengers Carried.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.		
1876-77.	714	1,661,673 55	1,154,445 33	.....	507,228 22	421,327	613,420
1877-78.	714	1,816,273 56	1,378,546 78	.....	432,326 78	552,710	618,957
1878-79.	714	2,010,183 22	1,294,069 69	.....	716,083 53	510,861	640,161
1879-80.	829	1,603,439 71	1,506,298 48	.....	97,131 23	561,924	581,483
1880-81.	840	1,759,851 27	1,760,393 92	542 65	.....	725,777	631,245
1881-82.	840	2,069,637 45	2,079,262 66	9,605 18	.....	838,956	779,994
1882-83.	840	2,360,373 27	2,370,910 10	17,547 18	.....	970,961	878,600
1883-84.	887	2,377,433 62	2,384,414 92	6,981 30	.....	1,069,237	944,636
1884-85.	941	2,519,751 56	2,441,203 66	.....	78,547 90	989,986	957,228
1885-86.	946	2,583,999 67	2,450,093 88	.....	133,905 79	1,023,788	932,880
1886-87.	977	2,922,369 62	2,660,116 93	.....	262,252 69	1,143,020	942,784
1887-88.	971	3,366,781 74	2,983,336 05	.....	383,445 69	1,288,823	1,040,163
1888-89.	971	3,244,647 73	2,967,801 00	.....	276,847 73	1,218,877	1,136,272
1889-90.	971	3,560,575 74	3,012,739 87	.....	847,835 87	1,368,819	1,219,233
1890-91.	1,094	3,662,341 94	2,977,395 38	.....	684,946 56	1,304,534	1,298,304
1891-92.	1,142	3,439,377 00	2,945,441 97	.....	493,935 03	1,264,575	1,297,732
1892-93.	1,142	3,045,317 50	3,065,499 09	20,181 59	.....	1,338,080	1,292,878
1893-94.	1,142	2,981,671 98	2,987,516 17	5,838 29	.....	1,342,710	1,301,062
1894-95.	1,142	2,936,902 74	2,940,717 95	3,815 21	.....	1,276,816	1,352,664
1895-96.	1,142	3,012,827 62	2,967,670 10	.....	55,187 32	1,379,618	1,471,866
1896-97.	1,145	2,925,968 67	2,866,028 02	.....	59,940 65	1,296,028	1,501,690
1897-98.	1,201	3,327,648 51	3,117,069 85	.....	209,978 66	1,434,576	1,523,444
1898-99.	1,315	3,675,686 21	3,738,331 44	62,645 43	.....	1,750,761	1,603,995
1899-1900.	1,315	4,431,404 69	4,552,071 71	120,667 02	.....	2,151,208	1,029,754
1900-01.	1,315	5,160,404 64	4,972,235 87	.....	488,186 77	2,111,310	2,517,295
1901-02.	1,315	5,574,563 30	5,671,385 91	96,822 61	.....	2,385,816	2,186,226
1902-03.	1,315	6,196,653 19	6,324,323 72	127,670 53	.....	2,790,737	2,404,230
1903-04.	1,321	7,239,982 04	6,339,231 43	.....	900,750 61	2,664,149	2,663,156
1904-05.	1,446	8,508,826 75	6,783,522 83	.....	1,725,303 92	2,782,257	2,810,960
1905-06.	1,446	7,881,914 36	7,643,829 90	61,915 54	.....	3,156,189	2,737,160
1906-07.	1,448	6,030,171 83	6,248,311 00	218,139 17	.....	2,606,073	2,044,847
1907-08.	1,448	9,157,435 53	9,173,558 80	16,123 27	.....	4,134,064	2,780,371
1908-09.	*1,447-13	9,328,021 55	8,527,069 46	.....	800,952 09	3,573,972	2,907,232
1909-10.	1,447-13	8,645,070 33	9,268,234 99	623,164 66	.....	3,927,240	3,122,347
1910-11.	1,455-63	9,595,976 79	9,863,783 40	267,806 61	.....	4,101,400	3,232,895
1911-12.	1,468-15	10,591,035 84	10,593,785 84	2,750 00	.....	4,536,599	3,416,553
1912-13.	1,467-73	*11,984,482 69	11,984,482 69	.....	.....	5,203,469	3,763,115
1913-14.	1,457-77	*12,878,549 00	12,878,549 00	.....	.....	5,287,740	3,983,511
1914-15.	1,450-08	11,438,373 00	11,444,873 00	6,500 00	.....	4,529,002	3,613,373
1915-16.	1,626-78	12,551,495 84	14,068,791 41	1,517,295 57	.....	5,447,220	4,124,387

† The year 1906-7 was nine months only; the Canadian fiscal year having been changed to close on March 31, instead of June 30.

* The railway was remeasured in this year.

** Of this total \$4,500 was paid for compassionate allowance by special vote of Parliament.

*** Of this total \$11,360 was paid for compassionate allowance by special vote of Parliament.

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INTERCOLONIAL RAILWAY.

STATEMENT of Earnings, yearly, from July 1, 1876, to March 31, 1916.

Year.	Miles in Operation.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
1876-7.....	714	460,368 15	607,564 99	86,512 21	1,154,443 33
1877-8.....	714	475,256 82	801,709 82	101,985 07	1,378,946 78
1878-9.....	714	451,893 29	752,490 85	88,715 55	1,294,009 69
1879-80.....	829	490,338 66	915,486 50	100,473 32	1,506,298 48
1880-1.....	840	545,114 48	1,113,872 21	101,407 23	1,760,493 92
1881-2.....	840	651,299 74	1,303,496 00	124,470 72	2,679,262 66
1882-3.....	840	741,992 72	1,487,601 98	141,326 40	2,379,910 10
1883-4.....	887	775,784 77	1,461,390 37	147,240 78	2,383,414 92
1884-5.....	941	747,285 13	1,542,052 10	151,506 35	2,441,203 66
1885-6.....	946	765,900 03	1,523,487 72	160,706 13	2,450,093 88
1886-7.....	977	828,328 28	1,677,971 59	153,817 06	2,660,116 93
1887-8.....	971	844,448 07	1,932,877 85	166,010 13	2,983,336 95
1888-9.....	971	906,246 77	1,909,094 44	152,460 09	2,967,801 00
1889-90.....	971	895,094 53	1,964,646 86	152,998 48	3,012,739 87
1890-1.....	1,094	962,316 88	1,853,629 88	160,448 62	2,977,395 38
1891-2.....	1,142	961,427 94	1,803,529 03	180,435 00	2,946,441 97
1892-3.....	1,142	1,002,912 74	1,868,853 84	184,468 60	3,065,499 09
1893-4.....	1,142	958,915 13	1,834,126 34	193,762 51	2,987,502 27
1894-5.....	1,142	963,914 44	1,782,608 54	194,194 97	2,940,717 95
1895-6.....	1,142	971,426 26	1,788,813 18	197,400 66	2,957,640 10
1896-7.....	1,145	979,005 57	1,687,050 42	199,472 03	2,866,028 02
1897-8.....	1,201	1,053,864 64	1,857,740 06	206,065 15	3,117,669 85
1898-9.....	1,315	1,167,453 16	2,348,096 58	222,781 70	3,738,331 44
1899-1900.....	1,315	1,404,469 87	2,912,790 52	234,811 32	4,552,071 91
1900-1.....	1,315	1,607,166 79	3,121,006 15	244,062 93	4,972,235 87
1901-2.....	1,315	1,770,941 13	3,644,513 42	255,931 36	5,761,385 91
1902-3.....	1,315	1,927,916 87	4,128,255 00	268,151 75	6,324,323 72
1903-4.....	1,321	2,021,568 40	4,041,122 48	276,540 55	6,339,231 43
1904-5.....	1,446	2,105,066 75	4,373,178 75	305,277 53	6,783,522 33
1905-6.....	1,446	2,297,716 52	5,019,805 53	326,307 85	7,643,829 90
1906-7.....	1,448	1,952,438 88	4,032,745 00	263,127 12	6,248,311 05
1907-8.....	1,448	2,711,416 98	6,054,493 45	407,643 37	9,173,553 80
1908-9.....	*1,447 13	2,628,218 57	5,502,550 58	396,300 31	8,527,069 46
1909-10.....	1,447 13	2,765,884 66	6,048,884 18	433,466 15	9,268,234 99
1910-11.....	1,455 63	2,899,419 82	6,344,595 66	619,767 92	9,863,783 40
1911-12.....	1,468 15	3,017,304 63	7,008,300 49	568,180 72	10,593,785 84
1912-13.....	1,467 73	3,438,447 32	8,028,760 13	517,275 24	11,984,482 69
1913-14.....	1,457 77	3,674,878 75	8,469,590 33	734,679 92	12,878,549 00
1914-15.....	1,450 08	3,291,916 96	7,310,765 11	842,191 07	11,444,873 14
1915-16.....	1,526 78	4,010,879 58	9,200,339 21	857,572 62	14,068,791 41

*As measured in this year.

†1906-7, nine months only.

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INTERCOLONIAL RAILWAY.

STATEMENT showing the Number of Tons of Local and Through Freight carried, yearly, from July 1, 1876, to March 31, 1916.

Year.	Miles in Operation.	Local Freight.	Through Freight.	Total.
1876-7	714	The information for these years was destroyed when the general office in Moncton was burned		421,327
1877-8	714			522,710
1878-9	714			510,861
1879-80	829			561,924
1880-1	840			725,777
1881-2	840	571,784	267,272	838,956
1882-3	840	537,025	443,936	970,961
1883-4	887	584,581	424,658	1,009,237
1884-5	941	506,574	483,352	989,936
1885-6	946	580,076	443,712	1,023,788
1886-7	977	633,455	509,565	1,143,020
1887-8	971	727,599	561,224	1,288,823
1888-9	971	624,436	594,441	1,218,877
1889-90	971	756,696	612,123	1,368,819
1890-1	1,094	797, 92	507,042	1,304,534
1891-2	1,142	750,783	513,792	1,264,575
1892-3	1,142	1,030,628	357,452	1,388,080
1893-4	1,142	966,114	376,596	1,342,710
1894-5	1,142	901,374	366,442	1,267,816
1895-6	1,142	1,101,229	368,389	1,379,618
1896-7	1,145	927,167	368,859	1,296,028
1897-8	1,201	1,053,569	381,007	1,434,576
1898-9	1,315	1,351,569	399,192	1,750,761
1899-1900	1,315	1,713,928	437,280	2,151,208
1900-1	1,315	1,633,671	477,639	2,111,310
1901-2	1,315	1,914,551	471,265	2,385,816
1902-3	1,315	2,239,993	550,744	2,790,737
1903-4	1,321	2,123,261	540,888	2,664,149
1904-5	1,446	2,119,528	662,729	2,782,257
1905-6	1,446	2,413,863	742,326	3,156,189
1906-7	1,448	1,906,869	609,204	* 2,606,073
1907-8	1,418	3,227, 125	906,629	4,134,064
1908-9	† 1,447 13	2,742,454	831,518	3,573,972
1909-10	1,447 13	2,958,642	968,598	3,927,240
1910-11	1,455 63	3,0 5,437	1,015,963	4,101,400
1911-12	1,468 15	3,452,489	1,084,110	4,536,599
1912-13	1,467 73	3,913,373	1,290,096	5,203,469
1913-14	1,457 77	3,783,578	1,504,162	5,287,740
1914-15	1,450 08	2,983,719	1,545,283	4,529,002
1915-16	1,526 78	3,788,852	1,658,368	5,447,220

* 1906-7, nine months only.

† As remeasured in this year.

7 GEORGE V, A. 1917

INTERCOLONIAL RAILWAY.

STATEMENT of the Number of Local and Through Passengers carried yearly from July 1, 1876, to March 31, 1916.

Year.	Miles in Operation.	Number of Local Passengers.	Number of Through Passengers.	Total.
1876-7.	714	The information for these years was destroyed when the general office in Moncton was burned.		613,420
1877-8.	714			619,957
1878-9.	714			640,101
1879-80.	829			581,483
1880-1.	840			631,245
1881-2.	840	647,534	132,400	779,994
1882-3.	840	728,186	150,414	878,600
1883-4.	887	784,715	159,421	944,635
1884-5.	941	812,028	145,200	957,228
1885-6.	946	784,817	148,063	932,880
1886-7.	977	814,032	128,752	942,784
1887-8.	971	948,324	91,839	1,040,163
1888-9.	971	1,050,592	85,680	1,136,272
1890-90.	971	1,112,695	91,531	1,219,233
1890-1.	1,094	1,203,814	94,490	1,298,304
1891-2.	1,142	1,198,649	93,083	1,297,732
1892-3.	1,142	1,188,827	104,051	1,292,878
1893-4.	1,142	1,216,027	85,035	1,301,062
1894-5.	1,142	1,272,284	80,333	1,352,667
1895-6.	1,142	1,346,803	85,063	1,471,866
1896-7.	1,145	1,416,631	85,059	1,501,690
1897-8.	1,201	1,438,590	89,854	1,523,444
1898-9.	1,315	1,504,652	98,443	1,103,095
1899-1900.	1,315	1,878,858	112,896	1,791,754
1900-1.	1,315	1,905,599	119,696	2,025,295
1901-2.	1,315	2,061,196	125,030	2,186,226
1902-3.	1,315	2,555,013	149,217	2,404,230
1903-4.	1,321	2,447,843	215,313	2,663,156
1904-5.	1,446	2,589,928	221,032	2,810,960
1905-6.	1,446	2,491,472	245,688	2,737,160
*1906-7.	1,448	1,853,126	191,721	2,044,846
1907-8.	1,448	2,593,886	195,485	2,789,371
1908-9.	1,447-13	2,656,217	251,020	2,907,237
1909-10.	1,447-13	2,873,547	248,777	3,122,324
1910-11.	1,455-63	2,968,435	264,460	3,232,895
1911-12.	1,468-15	3,126,922	289,631	3,416,553
1912-13.	1,467-73	3,448,411	314,704	3,763,115
1913-14.	1,457-77	3,637,482	346,029	3,983,511
1914-15.	1,450-08	3,348,614	264,757	3,613,371
1915-16.	1,526-78	3,856,603	267,784	4,124,387

*1906-7, nine months only. †As remeasured this year.

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The following table shows the number of Tons of Coal carried over the Inter-colonial railway from the Nova Scotia collieries to Ste. Rosalie, Montreal and St. John for points west thereof, and to local stations, in each year from July 1, 1876, to March 31, 1916.

Year.	For the West.			To Local Stations.	Total.
	Via Ste. Rosalie.	Via Montreal.	Via St. John.		
1876-7.....				103,420	103,420
1877-8.....				97,043	97,043
1878-9.....		300		112,232	112,532
1879-80.....		1,097		135,369	136,466
1880-1.....		6,102	4,022	174,483	184,607
1881-2.....		18,015	11,779	218,364	248,158
1882-3.....		12,837	22,206	227,380	262,423
1883-4.....		32,014	19,532	252,014	293,562
1884-5.....		133,440	1,773	213,791	349,004
1885-6.....		171,170	21,150	215,272	407,592
1886-7.....		192,871	27,536	233,178	453,585
1887-8.....		183,704	36,224	309,727	529,659
1888-9.....		160,026	27,923	338,538	526,487
1889-90.....		164,453	25,126	366,967	554,546
1890-1.....		113,996	60,213	344,829	498,038
1891-2.....		35,447	5,918	392,441	473,806
1892-3.....		136,808	3,775	402,653	543,206
1893-4.....		102,273	8,028	367,390	478,691
1894-5.....		67,082	7,865	310,253	385,200
1895-6.....		53,124	9,681	369,708	432,513
1896-7.....		38,395	12,305	331,469	382,172
1897-8.....		9,084	9,796	351,069	369,949
1898-9.....		4,647	5,399	484,163	494,206
1899-1900.....		3,495		599,714	603,289
1900-1.....		136			506,454
1901-2.....		1,131	5,763	3,640	546,986
1902-3.....	2,200	7,817	6,775	725,727	742,519
1903-4.....	2,260	637	513	691,346	694,761
1904-5.....	800	265	5,022	596,290	602,377
1905-6.....	7,542	1,625	661	610,444	620,272
*1906-7.....	1,737	2,808	3,252	624,833	632,630
1907-8.....	22	183	4,245	1,061,694	1,066,134
1908-9.....	514	945	4,243	909,050	914,752
1909-10.....	42	890	1,452	1,003,120	1,005,504
1910-11.....	90	180	633	983,921	984,824
1911-12.....	73		303	1,111,157	1,111,533
1912-13.....			425	1,216,636	1,217,061
1913-14.....	26			1,237,550	1,237,576
1914-15.....			50	1,083,492	1,083,542
1915-16.....			17,023	1,316,361	1,333,384

* 1906-7, nine months only.

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TABLE showing the number of Bushels of Grain carried during each year over the Intercolonial railway for shipment from July 1, 1876, to March 31, 1916.

Year.	Bushels.		Total.	Year.	Bushels.		Total.
	Via Chaudière.	Via St. John.			Via Chaudière.	Via St. John.	
1876-7.....				1896-7.....	Nil.	Nil.	Nil.
1877-8.....				1897-8.....	8,000	"	8,000
1878-9.....				1898-9.....	30,000	"	30,000
1879-80.....				1899-1900.....	13,239	"	13,239
1880-1.....				1900-1.....	147	"	147
1881-2.....				1901-2.....	Nil.	"	Nil.
1882-3.....	31,011		31,011	1902-3.....	"	"	"
1883-4.....	73,389		73,389	1903-4.....	147,438	"	147,438
1884-5.....	300,901		300,901	1904-5.....	Nil.	"	Aucun.
1885-6.....	389,122		389,122	1905-6.....	*170,000		170,000
1886-7.....	575,880		575,880	1906-7.....			Nil.
1887-8.....	69,021		69,021	1907-8.....			"
1888-9.....	129,725		129,725	1908-9.....			"
1889-90.....	502,012		502,012	1909-10.....			"
1890-1.....	148,803	59,543	218,337	1910-11.....	*233,839	2,000	235,839
1891-2.....	845,997	519,500	1,265,497	1911-12.....	†122,734	1,215,574	1,338,308
1892-3.....	156,306	197,666	352,975	1912-13.....	*2,021,901		2,021,901
1893-4.....	Nil.	8,026	8,026	1913-14.....	*2,251,117	966,800	3,217,917
1894-5.....	"	Nil.	Nil.	1914-15.....	†859,888	658,524	1,518,412
1895-6.....	"	"	"	1915-16.....	1,942,642		1,942,642

* Via Montreal. 1906-7, nine months only. † Via Halifax.

TABLE showing the number of Barrels of Flour and Meal carried during each year over the Intercolonial railway from July 1, 1876, to March 31, 1916.

Year.	Barrels.	Year.	Barrels.
1876-7.....	254,710	1893-7.....	847,701
1877-8.....	557,772	1897-8.....	987,701
1878-9.....	630,329	1898-9.....	1,157,250
1879-80.....	535,248	1899-1900.....	1,234,077
1880-1.....	672,310	1900-1.....	1,292,106
1881-2.....	692,095	1901-2.....	1,311,707
1882-3.....	983,916	1902-3.....	1,521,540
1883-4.....	817,134	1903-4.....	1,607,050
1884-5.....	935,977	1904-5.....	1,769,480
1885-6.....	761,127	1905-6.....	1,882,630
1886-7.....	763,894	1906-7.....	1,531,140
1887-8.....	871,838	1907-8.....	1,528,620
1888-9.....	948,514	1908-9.....	1,466,920
1889-90.....	1,116,050	1909-10.....	1,608,170
1890-1.....	1,013,129	1910-11.....	1,696,280
1891-2.....	954,015	1911-12.....	1,873,640
1892-3.....	856,913	1912-13.....	2,094,990
1893-4.....	944,967	1913-14.....	1,960,920
1894-5.....	938,351	1914-15.....	2,374,440
1895-6.....	822,097	1915-16.....	2,822,900

1906-7, nine months only.

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TABLE showing the number of Bushels of Grain carried during each year over the Intercolonial railway since July 1, 1876.

Year.	Bushels.	Year.	Bushels.
1876-77.....	292,852	1896-97.....	1,093,499
1877-78.....	331,170	1897-98.....	1,551,372
1878-79.....	302,921	1898-99.....	2,595,353
1879-80.....	534,021	1899-1900.....	2,720,453
1880-81.....	565,678	1900-01.....	3,535,364
1881-82.....	560,253	1901-02.....	2,959,761
1882-83.....	1,195,601	1902-03.....	3,392,252
1883-84.....	654,673	1903-04.....	2,788,772
1884-85.....	734,902	1904-05.....	3,317,910
1885-86.....	849,800	1905-06.....	2,924,226
1886-87.....	1,018,395	1906-07.....	2,281,864
1887-88.....	1,219,035	1907-08.....	4,567,245
1888-89.....	1,256,158	1908-09.....	4,727,268
1889-90.....	2,610,202	1909-10.....	7,074,042
1890-91.....	2,890,921	1910-11.....	5,080,848
1891-92.....	3,776,677	1911-12.....	5,206,440
1892-93.....	1,514,619	1912-13.....	6,520,920
1893-94.....	1,304,684	1913-14.....	6,419,560
1894-95.....	1,036,384	1914-15.....	5,011,840
1895-96.....	1,064,385	1915-16.....	6,537,213

1906-7, nine months only.

TABLE showing the quantity of Lumber in feet carried during each year over the Intercolonial railway since July 1, 1876.

Year.	Feet.	Year.	Feet.
1876-77.....	50,096,474	1896-97.....	243,355,725
1877-78.....	56,626,547	1897-98.....	354,093,816
1878-79.....	55,626,696	1898-99.....	306,554,031
1879-80.....	55,462,654	1899-1900.....	379,350,074
1880-81.....	72,841,388	1900-01.....	396,858,964
1881-82.....	78,356,418	1901-02.....	428,051,029
1882-83.....	104,633,417	1902-03.....	459,231,589
1883-84.....	131,120,948	1903-04.....	465,379,803
1884-85.....	138,493,675	1904-05.....	518,434,310
1885-86.....	117,186,512	1905-06.....	572,878,600
1886-87.....	161,801,763	1906-07.....	452,602,703
1887-88.....	137,755,272	1907-08.....	754,759,383
1888-89.....	199,507,777	1908-09.....	571,395,101
1889-90.....	210,886,071	1909-10.....	677,805,611
1890-91.....	184,188,324	1910-11.....	647,327,499
1891-92.....	175,474,340	1911-12.....	656,418,588
1892-93.....	181,211,013	1912-13.....	830,654,000
1893-94.....	200,507,949	1913-14.....	1,000,849,630
1894-95.....	202,247,269	1914-15.....	558,730,900
1895-96.....	226,332,715	1915-16.....	720,012,230

1906-7, nine months only.

7 GEORGE V, A. 1917

TABLE showing the number of Live Stock carried during each year over the Inter-colonial railway since July 1, 1876.

Year.	Number.	Year.	Number.
1876-77.....	34,414	1896-97.....	72,082
1877-78.....	46,498	1897-98.....	89,301
1878-79.....	47,584	1898-99.....	109,821
1879-80.....	70,990	1899-1900.....	92,813
1880-81.....	61,574	1900-01.....	95,923
1881-82.....	73,479	1901-02.....	98,495
1882-83.....	68,338	1902-03.....	127,060
1883-84.....	60,090	1903-04.....	113,006
1884-85.....	70,785	1904-05.....	110,670
1885-86.....	74,498	1905-06.....	106,589
1886-87.....	82,896	1906-07.....	97,381
1887-88.....	98,302	1907-08.....	99,824
1888-89.....	85,960	1908-09.....	104,165
1889-90.....	80,771	1909-10.....	106,712
1890-91.....	95,529	1910-11.....	113,976
1891-92.....	87,889	1911-12.....	115,189
1892-93.....	93,369	1912-13.....	119,490
1893-94.....	78,203	1913-14.....	98,207
1894-95.....	72,106	1914-15.....	163,800
1895-96.....	64,051	1915-16.....	128,312

1906-7, nine months only.

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TABLE showing the number of Tons of Ocean-borne goods to and from Europe carried over the Intercolonial railway during each year from July 1, 1876, to March 31, 1916.

Year.	Via St. Rosalie to and from the West.	Via Mont- real to and from the West.	Via St. John to and from the West.	To and from Local Stations.	Total.
1876-77.....					
1877-78.....		14,949		3,405	18,354
1878-79.....		21,628		2,643	24,271
1879-80.....		21,073		4,952	26,025
1880-81.....		15,454		3,334	18,788
1881-82.....		21,607		4,168	25,775
1882-83.....		24,875		7,911	32,786
1883-84.....		19,696		6,533	26,229
1884-85.....		22,787		8,405	31,192
1885-86.....		13,464		8,216	21,680
1886-87.....		16,923		9,811	26,734
1887-88.....		41,864		8,878	50,742
1888-89.....		17,340		11,481	28,821
1889-90.....		9,895		11,730	21,625
1890-91.....		9,923		10,764	20,687
1891-92.....		9,716		23,835	33,571
1892-93.....		7,295		12,319	19,714
1893-94.....		3,023	204	13,455	16,682
1894-95.....		6,749	213	10,399	17,361
1895-96.....		3,767	314	16,748	20,829
1896-97.....		2,654	263	17,239	20,156
1897-98.....		5,950	1,637	18,633	26,220
1898-99.....		2,462	243	31,555	34,263
1899-1900.....		6,880	307	37,108	30,794
1900-01.....	322	7,780	1,142	155,514	163,838
1901-02.....	1,106	11,925	1,528	172,733	183,147
1902-03.....	817	21,377	1,194	124,695	138,631
1903-04.....	2,079	15,325	2,994	146,070	174,520
1904-05.....	284	17,217	3,683	85,853	105,149
1905-06.....	2,026	15,922	5,337	128,462	153,042
1906-07.....	1,384	16,652	436	110,447	128,219
1907-08.....	2,440	16,652	519	134,541	154,052
1908-09.....	2,487	23,402	649	119,913	146,451
1909-10.....	2,367	21,064	5,818	131,273	160,522
1910-11.....	7,220	27,607	6,927	130,776	172,530
1911-12.....	9,911	63,544	8,777	213,579	295,811
1912-13.....	13,144	74,870	11,114	192,012	291,140
1913-14.....	16,424	68,083	45,776	123,964	244,247
1914-15.....	22,819	64,764	15,252	191,130	296,965
1915-16.....	48,119	124,024	17,384	356,369	545,896

1906-7, nine months only.

7 GEORGE V, A. 1917

TABLE showing the number of Tons of Raw and Refined Sugar carried over the Inter-colonial railway during each year from July 1, 1876.

Year.	Raw Sugar.					Refined Sugar.				
	Via Ste. Rosalie.	To Montreal for West.	To St. John for West.	To Local Stations	Total.	Via Ste. Rosalie	To Montreal for West.	St. John for West.	To Local Stations	Total.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
1876-77.....		340			340					
1877-78.....		186			186					
1878-79.....		1,041			1,041					
1879-80.....		12,220			12,220					
1880-81.....		13,872			13,862		4,022		2,902	6,924
1881-82.....		13,256		1,290	15,546		7,146		3,607	10,753
1882-83.....		9,465		508	9,973		11,126		5,497	16,623
1883-84.....		13,778		3,063	16,846		14,543		7,265	21,808
1884-85.....		10,381		3,661	14,042		18,024		8,445	26,469
1885-86.....		4,394		3,983	8,392		7,674		5,858	13,518
1886-87.....		20,430		8,500	28,950		15,044		8,395	23,439
1887-88.....		14,320		14,085	28,405		21,641		7,133	28,774
1888-89.....		24,358		7,160	31,518		12,955		11,120	24,075
1889-90.....		6,390		8,913	16,303		6,778		6,125	12,903
1890-91.....		5,088	4,670	8,215	17,973		10,130	468	5,096	16,954
1891-92.....		7,142	3,960	10,535	21,637		12,633	7,647	12,414	32,721
1892-93.....				10,137	10,137		8,327	6,456	7,840	22,623
1893-94.....				6,775	6,775		17,729	6,967	8,885	33,581
1894-95.....				10,342	10,342		13,351	15,819	4,695	33,865
1895-96.....				9,824	9,824		15,138	13,734	11,309	40,181
1896-97.....				4,925	4,925		5,694	8,069	6,957	20,720
1897-98.....							6,624	8,821	10,989	26,534
1898-99.....							8,138	2,183	15,833	26,164
1899-1900.....		96			96		9,795	257	19,655	29,907
1900-01.....		489			489		14,791	12	10,615	25,821
1901-02.....		90		11,553	11,643	3,101	9,831	861	18,839	29,632
1902-03.....		194		17,137	17,331	3,183	5,763	1,636	20,529	31,111
1903-04.....	357	875		7,495	8,727	6,013	8,628	879	29,400	44,920
1904-05.....	602	603	78	1,495	15,684	1,446	7,107	224	23,937	31,764
1905-06.....		715	68	9,308	10,091	4,235	12,268	176	24,780	41,459
1906-07.....		394		14,671	15,065	1,998	5,898	2,374	13,927	24,197
1907-08.....		912		4,371	5,283	5,280	10,555	723	21,073	37,631
1908-09.....	6	1,705		6,817	8,528	5,095	8,906	979	21,527	34,507
1909-10.....	309	2,000		12,203	14,512	6,402	9,217	1,051	23,224	39,894
1910-11.....	532	1,293		24,166	25,991	6,326	9,368	947	25,026	41,667
1911-12.....	1,096	2,558		12,057	15,711	8,242	9,691	1,519	21,870	41,322
1912-13.....	1,380	14,030			15,410	8,678	9,640	1,422	23,684	43,424
1913-14.....	1,419	1,852		9,806	13,077	8,813	8,470	1,609	24,388	43,280
1914-15.....	2,053	1,998		5,894	9,945	10,333	11,331	861	30,399	52,924
1915-16.....		881		17,108	17,989	7,824	19,706	897	41,406	69,833

1906-7, nine months only.

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TABLE showing the number of Tons of Fresh and Salt Fish carried over the Inter-colonial railway during each year since 1876.

Year.	Fresh Fish.					Salt Fish.				
	Via Ste. Rosalie.	Via Montreal.	Via St. John.	To Local Stations.	Total.	Via Ste. Rosalie.	Via Montreal.	Via St. John.	To Local Stations.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1876-77		530	921	527	1,978		551	1,848	802	3,201
1877-78		596	1,015	474	2,085		898	1,644	805	3,346
1878-79		471	1,336	817	2,624		988	1,038	1,048	2,974
1879-80		519	1,462	453	2,334		1,612	2,238	959	4,809
1880-81		498	1,879	920	3,297		1,418	937	1,051	4,406
1881-82		475	1,919	967	3,951		4,031	1,066	2,487	7,584
1882-83		542	384	393	1,319		3,229	759	1,354	5,412
1883-84		838	1,682	412	2,932		1,322	1,143	1,224	3,689
1884-85		1,062	1,885	484	3,431		3,563	3,660	1,596	8,759
1885-86		1,669	1,655	902	4,216		1,680	3,047	3,376	7,103
1886-87		1,278	1,572	2,008	4,859		3,236	569	1,747	5,552
1887-88		1,533	1,477	1,031	4,041		2,617	470	1,099	4,193
1888-89		2,474	2,000	1,870	6,344		3,070	7,746	2,994	13,810
1889-90		2,335	1,787	2,111	6,223		2,449	847	3,288	6,584
1890-91		2,029	2,788	1,848	6,665		1,953	1,917	3,236	7,106
1891-92		1,367	1,746	547	3,660		1,946	923	1,889	4,763
1892-93		1,683	1,875	3,340	6,898		3,262	1,811	2,176	7,249
1893-94		1,950	2,192	2,224	6,375		2,921	1,814	2,962	7,697
1894-95		2,006	3,726	1,160	6,892		2,075	1,849	5,285	10,209
1895-96		1,966	3,059	1,316	6,344		1,863	1,087	2,791	5,741
1896-97		3,307	3,115	1,286	7,708		2,158	1,176	2,536	5,889
1897-98		3,575	3,703	1,052	8,330		1,729	1,066	2,210	5,005
1898-99		1,210	2,070	3,305	5,583		1,651	1,198	3,625	5,474
1899-1900		2,547	2,706	3,686	8,939		2,421	1,563	2,658	6,643
1900-01	37	2,009	3,207	4,125	9,393	860	3,416	1,346	4,643	9,768
1901-02	219	3,013	4,373	5,477	13,082	283	3,250	1,413	5,196	10,042
1902-03	149	2,269	3,040	4,842	10,289	493	2,808	1,615	6,579	11,495
1903-04	779	1,939	3,588	5,002	11,068	225	2,359	564	5,848	8,996
1904-05	284	2,748	2,439	7,706	13,177	683	2,740	346	6,994	10,763
1905-06	320	2,882	3,712	7,400	14,314	307	3,159	416	6,348	10,227
1906-07	199	3,288	1,353	6,224	11,061	661	2,856	1,976	7,034	12,527
1907-08	312	2,965	2,794	6,046	13,017	668	4,078	1,632	4,866	11,244
1908-09	547	3,965	2,616	6,525	14,110	697	3,759	806	6,706	14,888
1909-10	1,216	4,900	2,733	6,161	14,110	893	3,590	1,993	9,120	15,546
1910-11	1,476	4,213	1,917	6,686	14,292	4,250	4,060	425	10,108	18,843
1911-12	1,490	4,572	3,928	7,294	17,284	909	5,795	2,902	8,529	18,135
1912-13	2,424	4,424	3,435	9,361	19,744	1,242	5,503	1,657	7,810	16,212
1913-14	2,183	3,746	1,180	9,904	17,013	2,549	6,771	452	9,246	19,018
1914-15	785	2,821	2,141	7,339	13,086	2,319	9,684	2,305	10,690	24,998
1915-16										

1906 7, nine months only.

7 GEORGE V, A. 1917

WINDSOR BRANCH.

This road has heretofore been operated by the Dominion Atlantic Railway Company (formerly the Windsor and Annapolis Railway Company) under an agreement which covers also running powers over the Intercolonial railway between Windsor Junction and Halifax; the company retaining two-thirds of the gross earnings and the Government receiving one-third of the gross earnings for maintaining the way and works. Under date the 1st of January, 1914, a new lease was entered into with the company, subject to ratification by Parliament, to be valid for a period of 99 years from that date, the rental to be \$22,500 a year.

Year.	Miles in oper- ation.	One third gross earnings.	Proportion credited to line Windsor Junction to Halifax.	Proportion credited to the Windsor Branch.	Maintenance Expenses.	Profit.	Loss.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1880-81	32	28,434 29	7,217 76	21,216 53	20,502 26	714 27	
1881-82	32	28,461 07	7,407 88	21,052 19	13,090 55	7,953 64	
1882-83	32	31,199 77	8,095 88	24,113 89	23,103 93	1,009 96	
1883-84	32	30,423 39	7,409 46	23,018 93	22,140 86	878 07	
1884-85	32	32,246 30	7,794 95	24,451 35	18,751 96	5,699 39	
1885-86	32	31,185 63	7,527 52	23,658 11	19,229 49	4,428 62	
1886-87	32	33,564 58	8,237 00	25,327 58	26,042 33		714 75
1887-88	32	32,242 85	6,689 30	24,553 55	24,040 33	513 22	
1888-89	32	37,313 43	8,941 32	28,372 11	20,856 50	7,515 61	
1889-90	32	39,544 19	9,381 73	30,162 46	18,982 82	11,179 64	
1890-91	32	39,519 56	9,284 48	38,508 35	28,931 71	1,303 42	
1891-92	32	42,891 23	9,382 38	30,235 13	19,514 37	13,994 48	
1892-93	32	43,901 28	9,585 17	34,316 11	16,889 95	17,426 16	
1893-94	32	41,834 70	8,859 23	32,475 47	17,645 09	15,330 38	
1894-95	32	50,703 84	11,626 20	39,077 64	14,640 07	24,437 57	
1895-96	32	47,456 74	10,894 91	36,561 83	16,476 46	20,985 37	
1896-97	32	54,208 81	13,695 58	40,603 23	10,821 04	29,782 19	
1897-98	32	48,892 21	11,665 57	37,226 64	18,181 09	14,045 01	
1898-99	32	56,314 51	13,840 48	42,474 04	12,873 06	29,600 94	
1899-1900	32	62,266 61	14,925 18	47,351 43	12,891 56	34,459 87	
1900-01	32	62,523 20	15,261 31	47,261 89	16,862 66	30,395 23	
1901-02	32	65,315 38	15,710 79	49,604 59	16,376 27	33,228 32	
1902-03	32	56,417 38	13,856 57	42,560 81	17,843 19	24,717 62	
1903-04	32	72,708 54	19,074 49	53,634 05	24,281 09	29,352 96	
1904-05	32	66,798 46	16,759 79	50,038 67	26,863 16	23,175 51	
1905-06	32	65,936 66	16,484 16	49,452 50	17,485 97	31,966 53	
1906-07	32	61,597 30	16,156 78	45,440 52	15,425 32	30,015 20	
1907-08	32	76,471 58	20,041 17	56,430 41	37,912 11	18,518 20	
1908-09	32	75,781 80	19,750 47	56,031 33	36,234 55	19,796 78	
1909-10	32	81,861 73	21,207 75	60,653 98	23,549 90	37,104 08	
1910-11	32	64,781 89	16,590 46	48,191 43	17,797 98	30,393 45	
1911-12	32	99,996 10	26,819 50	73,176 60	34,854 05	39,322 55	
1912-13	32	93,235 40	21,988 70	68,246 70	29,970 62	38,276 08	
1913-14	32	85,277 77	23,710 25	61,517 52	26,486 98	35,030 54	
1914-15.	32	Leased to the Dominion Atlantic Railway Company at an annual rental of \$22,500.					

1906-7, nine months only.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

The following table shows the working expenses, the gross and net earnings, the tons of freight and number of persons carried each year since June 30, 1875, when the road was first opened for traffic:—

Year.	Miles in operation.	Working expenses.		Gross earnings.		Loss.		Tons of freight carried.	No. of passengers carried.
		\$	cts.	\$	cts.	\$	cts.		
1875-76	199	214,930	43	118,060	96	96,869	47	23,358	93,964
1876-77	199	228,595	25	130,664	92	97,930	33	41,039	93,478
1877-78	199	221,599	46	135,899	60	85,699	89	38,668	111,428
1878-79	199	223,313	12	123,855	99	97,457	21	38,923	105,046
1879-80	199	164,640	55	113,851	11	50,789	44	37,208	90,533
1880-81	199	228,259	97	137,267	54	90,922	43	48,315	118,436
1881-82	199	252,808	41	146,170	42	106,637	99	51,920	117,162
1882-83	199	236,428	13	144,504	12	91,924	01	51,841	118,988
1883-84	211	211,207	01	158,588	06	52,618	95	57,346	130,423
1884-85	211	216,744	34	155,584	36	61,159	98	57,913	120,374
1885-86	211	204,237	37	155,303	37	48,934	00	63,589	103,067
1886-87	211	229,639	95	158,365	62	71,276	33	59,603	131,246
1887-88	211	247,559	44	171,369	56	76,189	89	55,682	152,780
1888-89	211	266,485	85	160,971	78	105,524	07	52,604	133,099
1889-90	211	257,990	08	174,258	05	83,732	03	59,511	145,508
1890-91	211	289,706	38	157,442	69	132,263	69	51,065	139,389
1891-92	211	226,422	17	162,600	42	63,731	75	56,718	132,111
1893-94	211	226,801	06	158,533	83	68,857	23	53,577	123,727
1894-95	211	232,105	19	149,654	71	83,250	41	48,325	125,089
1895-96	211	225,138	56	146,476	54	78,662	02	46,795	122,586
1896-97	211	240,489	90	153,443	13	87,046	77	52,151	131,498
1897-98	211	231,418	74	158,950	61	72,468	13	57,539	156,510
1898-99	211	218,053	01	165,021	03	53,040	98	57,968	129,667
1899-1900	211	220,931	81	174,738	73	46,193	08	62,227	147,471
1900-01	211	261,766	24	195,833	48	67,883	76	73,696	157,793
1901-02	210	270,159	97	197,999	97	72,160	00	74,381	184,748
1902-03	209	269,737	82	217,714	24	41,923	58	80,582	205,265
1903-04	209	335,695	44	234,390	03	101,305	41	86,286	224,517
1904-05	209	370,464	44	217,330	61	153,133	83	75,969	235,194
1905-06	261	294,253	16	287,270	57	36,982	59	87,162	371,092
1906-07	267	282,148	50	215,534	97	67,713	53	67,144	232,256
1907-08	267	399,947	79	304,579	83	95,767	96	97,250	371,828
1908-09	267 5	400,330	00	311,319	63	69,010	78	106,090	332,758
1909-10	267 5	427,283	73	319,074	74	108,208	99	105,741	251,038
1910-11	267 5	424,104	00	337,419	55	86,684	45	108,263	356,761
1911-12	267 5	449,962	91	367,203	39	82,759	52	120,218	388,076
1912-13	267 5	489,972	34	389,474	07	100,498	27	122,794	433,888
1913-14	275 2	571,415	37	409,616	74	161,798	63	115,751	445,739
1914-15	275 2	598,226	97	415,495	44	182,731	53	125,272	423,496
1915-16	274 9	545,020	62	390,926	82	154,093	80	118,862	412,535

1906-7, nine months only.

7 GEORGE V, A. 1917

CANALS.

STATEMENT showing the total cost of construction of the individual Dominion canal works and connecting waters, up to March 31, 1916.

Route from Montreal to Lake Superior.

	Original Construction.	Enlargement.	Improvements to St. Lawrence River and Lakes.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Lachine Canal	2,589,532 85	11,519,078 74		14,108,611 59
Lake St. Louis			298,176 11	298,176 11
Soulanges Canal	7,904,044 53			7,904,044 53
Beauharnois Canal	1,636,690 26			1,636,690 26
Lake St. Francis			75,906 71	75,906 71
Cornwall Canal	1,945,624 73	5,300,679 48		7,246,304 21
Williamsburg Canal	1,320,655 54	13,896 26		1,334,551 80
Farrans Point Canal		877,090 57		877,090 57
Rapide Plat Canal		2,158,242 00		2,158,242 00
Galops Canal		6,121,213 70		6,121,213 70
Galops Rapids			1,039,895 65	1,039,895 65
St. Lawrence River and Reaches			711,238 93	711,238 93
North Channel			1,718,778 83	1,718,778 83
Murray Canal	1,248,946 71			1,248,946 71
Welland Canal	7,693,824 03	21,925,171 63		29,618,995 66
Sault Ste. Marie Canal	4,994,372 51			4,994,372 51
Welland Ship Canal	9,960,563 44			9,960,563 44
Total	39,294,554 60	47,915,372 38	3,843,996 23	91,053,623 21

Route from Lachine to Ottawa.

	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Ste. Anne's Lock	134,456 51	1,035,759 12	1,170,215 63
Carillon and Grenville Canals	*63,053 64	4,119,039 32	4,182,092 96
Culbute Canal (superseded)	382,391 46		382,391 46
Total	579,901 61	5,154,798 44	5,734,700 05

*Construction by the Imperial Government is not included. Records relating to same were kept in Ordnance Office, Montreal, and were destroyed by fire in 1852.

Route from Ottawa to Kingston.

	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Rideau Canal	4,084,323 37	83,745 84	4,168,069 21
Tay Canal	489,599 23		489,599 23
Total	4,573,922 60	83,745 84	4,657,668 44

SESSIONAL PAPER No. 20

Route from St. Johns, P.Q., to Sorel.

—	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Chambly Canal	637,066 76	94,639 76	731,696 52
St. Ours Lock.....	121,537 65	5,690 91	127,228 56
Total	758,594 41	100,330 67	858,925 08

Route from Lake Ontario to Georgian Bay.

—	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Trent Canal	15,626,295 14	.....	15,626,295 14
Total	15,626,295 14	.....	15,626,295 14

Route from Atlantic Ocean to Bras d'Or Lakes.

—	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
St. Peter's Canal—Cape Breton	248,762 84	399,784 30	648,547 14
Total	248,762 84	*399,784 30	648,547 14

*This amount is expenditure on Capital Account, up to 1896 included. A further sum of has been expended since April 1, 1911, on income account.

7 GEORGE V, A. 1917

COMPARATIVE STATEMENT of Tons of Freight passed through the Canals in seasons of 1914 and 1915.

Name of Canal	Season of 1915.	Season of 1914.	Number of trips of vessels.	
			Season of 1915.	Season of 1914.
	Tons.	Tons.		
Sault Ste. Marie.....	7,750,957	27,549,184	4,331	5,977
Welland.....	3,061,012	3,860,969	2,922	3,692
St. Lawrence.....	3,469,467	4,391,493	8,641	10,245
Chambly.....	478,767	436,905	2,789	2,694
St. Peter's.....	2,895	54,180	71	1,200
Murray.....	30,728	83,907	600	971
Ottawa.....	272,370	335,132	2,040	2,472
Rideau.....	120,781	151,739	2,076	2,635
Trent.....	49,904	67,715	3,433	3,647
St. Andrew's*.....	21,942	42,013	1,087	334
Total.....	15,198,863	37,023,237	27,990	33,867

*This is a lock and dam on the Red river, between Winnipeg and lake Winnipeg, built and operated by the Department of Public Works.

TABLE showing the dates of opening and closing of the canals for the season of 1915.

		Navigation Opened 1915.	Navigation Closed 1915.
Lachine.....		April 20	December 13
Soulanges.....		" 20.....	" 13
Grenville.....		" 20	November 27
Carillon.....		" 20	" 27
Ste. Anne's.....		" 19.....	December 3
Chambly.....		" 29.....	" 1
St. Ours.....		" 17.....	" 2
Cornwall.....		" 15.....	" 11
Williamsburg.....	Farrans Point.....	" 15.....	" 11
	Rapide Plat.....	" 15.....	" 11
	Galops.....	" 15.....	" 11
Murray.....		" 15.....	" 8
Welland.....		" 15.....	" 15
Sault Ste. Marie.....		" 13.....	" 16
Rideau.....	At Ottawa.....	May 1	November 29
	At Kingston.....	" 1.....	" 29
	Hastings to Rice Lake.....	April 20.....	" 30
	Rice Lake to Peterborough.....	" 17.....	December 4
	Peterborough to Lakefield.....	May 4.....	November 20
	Peterborough Lift Lock.....	" 6.....	" 8
Trent.....	Lakefield to Bobcaygeon.....	April 19.....	" 18
	Bobcaygeon to Rosedale.....	" 26.....	" 30
	Kirkfield to Lake Simcoe.....	May 18.....	October 30
	Kirkfield Lift Lock.....	" 4.....	" 25
	Lake Simcoe to Orillia.....	April 27.....	November 15
	Scugog River and Lindsay Lock.....	" 21	" 13

St. Peter's closed during reconstruction.

PART IX

PHOTOGRAPHS AND PLANS

PHOTOGRAPHS

PLATE	I. Lachine Canal—Improvements at Lock No. 4
"	I. Lachine Canal—Improvements at Lock No. 4.
"	II. Soulanges Canal—Upper Entrance.
"	II. Lake St. Francis—Protection walls.
"	III. Lake St. Francis—Protection walls.
"	III. Cornwall Canal—Supply weir at head of canal.
"	IV. Cornwall Canal—Offtake weir, Sheik's Island.
"	V. Cornwall Canal—Lower Entrance.
"	VI. St. Peters Canal—Improvements.
"	VIA. St. Peters Canal—Improvements near Atlantic Entrance.
"	VII. Trent Canal—Dam No. 10, Campbellford.
"	VII. Trent Canal—Buckhorn Dam.
"	VIII. Trent Canal—New bridge at Trenton.
"	IX. Welland Ship Canal—Retaining Wall.
"	X. Welland Ship Canal—Lock No. 2.
"	XI. Welland Ship Canal—Blasting rock.
"	XI. Welland Ship Canal—Section No. 5.
"	XII. Welland Ship Canal—Hydraulic Suction Dredge.
"	XII. Welland Ship Canal—Section No. 3.
"	XIII. Welland Ship Canal—Lock No. 1.
"	XIV. Quebec Bridge.
"	XV. Quebec Bridge.
"	XVI. Quebec Bridge—Centre span.
"	XVII. Intercolonial Railway—Grand Narrows Bridge.
"	XVII. Intercolonial Railway—Grand Narrows Bridge.
"	XVIII. Intercolonial Railway—Subway, Moncton.
"	XVIII. Intercolonial Railway—Coaling Plant, Lévis.
"	XIX. Intercolonial Railway—Ocean Terminals, Halifax, N.S.
"	XX. Car Ferry Terminal—Cape Tormentine, N.B.
"	XX. Car Ferry Terminal—Cape Tormentine, N.B.
"	XXI. Car Ferry Terminal—Carleton Point, P.E.I.
"	XXI. Hudson Bay Railway—Bridge on Nelson River.
"	XXII. Hudson Bay Railway—Port Nelson Terminus.
"	XXIII. Hudson Bay Railway—Port Nelson Terminus.

PLANS

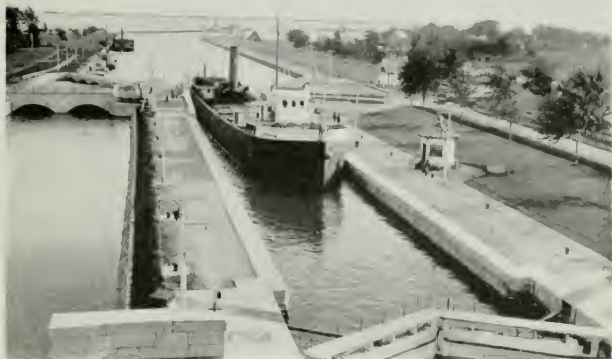
No. 1.	Welland Ship Canal—Niagara Peninsular.
" 2.	Welland Ship Canal—Plan and profile.
" 3.	Welland Ship Canal—Lake Ontario Entrance.
" 4.	Intercolonial Railway—Halifax Ocean Terminals.
" 5.	Hudson Bay Railway.



Lachine Canal.—Improvements at Lock No. 4. View of South Bank of Canal between Côte St. Paul Swing Bridge and Lock No. 4, before removal of projecting point. Prism partially unwatered April 1910.



Lachine Canal.—Improvements at Lock No. 4. View of South bank of Canal between Côte St. Paul Swing Bridge and Lock No. 4, after completion of works of improvement. Water at regulated level. July 1916.



Soulages Canal.—General view of upper entrance, showing in the back ground the extension of river wall and the breakwater which were recently completed. Before these works were constructed it was not practicable to operate the locks during a south west gale.



Protection walls Lake St. Francis. View showing erosive action of waves upon unprotected shores. September 1911.



Protection walls, Lake St. Francis. View showing nature of protective works. Sedimentation is taking place behind stone walls.



Cornwall Canal. Reinforced concrete beams for carrying machinery for operating valves in supply weir at head of Canal.



Cornwall Canal. Offtake weir at foot of Sheikh's Island. Completed in 1915.

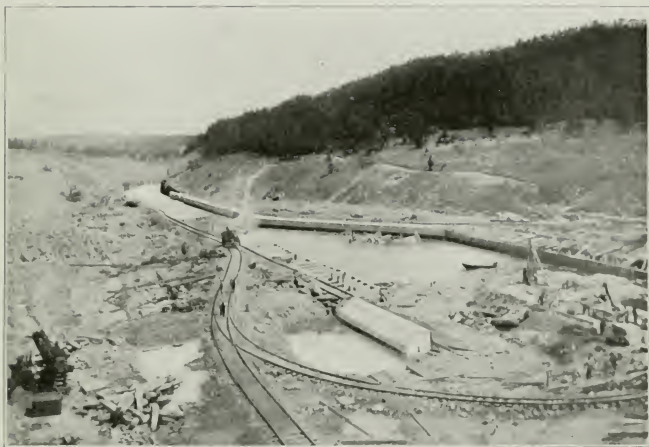


Cornwall Canal. General View of Lower Entrance.



St. Peters Canal Improvements.

General view of works from a point near the Atlantic entrance to Canal, before admitting water. The old lock is visible at the right of the picture, the east wall thereof forming one of the entrance walls to the new lock shown in the upper left centre of the picture.



St. Peters Canal Improvements, near Atlantic Entrance.

General view of works from point after admission of water through coffer dam near lake entrance of canal. Material shown in foreground blocking the Atlantic entrance will be dredged out as soon as lock gates are stopped. The concrete cribs shown floating alongside the westerly entrance wall are to be used for extending that wall out to sea shore.



Trent Canal, Ontario.—Rice Lake Division, Section 4, March 1916. Showing ice conditions at Dam No. 10, Campbellford.



Trent Canal.—Lakefield-Balsam Lake Division, April 16th, 1916. Buckhorn Dam during high water conditions.

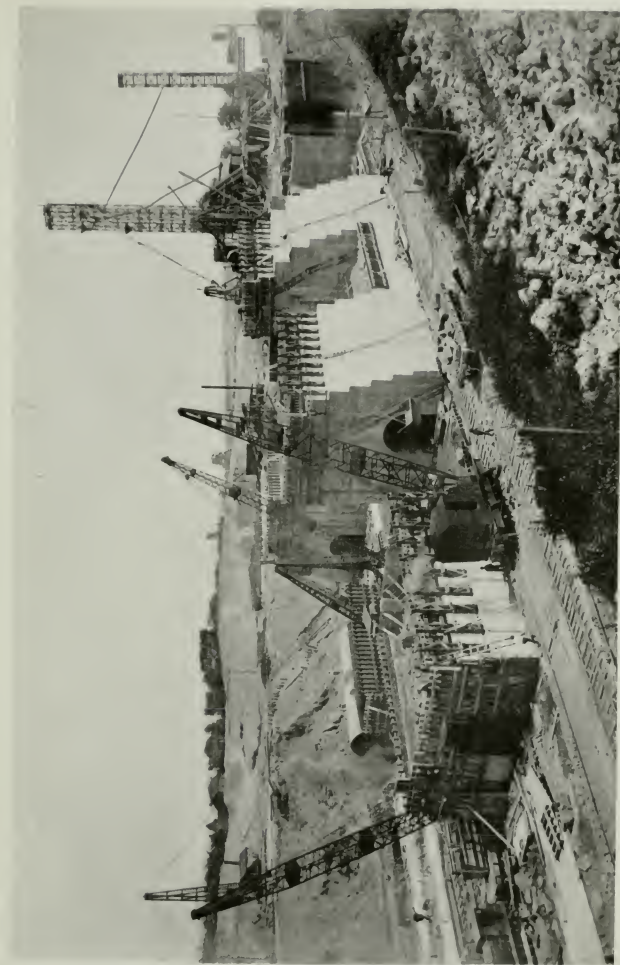
PLATE VIII



Trent Canal.—Ontario-Rice Lake Division, Section No. 1, April 1916. New Highway Bridge at Trenton, from west side of river above bridge.



Welland Ship Canal. Reinforced Retaining Wall on Pile Foundation.



Welland Ship Canal. Lock No. 2.



Welland Ship Canal. Blasting Rock.



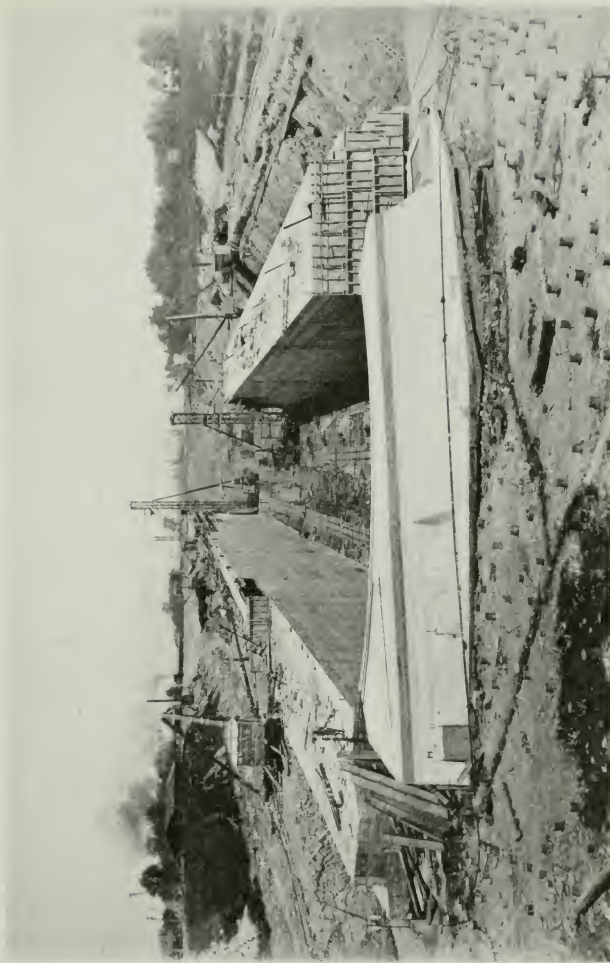
Welland Ship Canal, Section No. 5. Reclaiming land with excavated material.



Welland Ship Canal. Hydraulic Suction Dredge "Primrose".



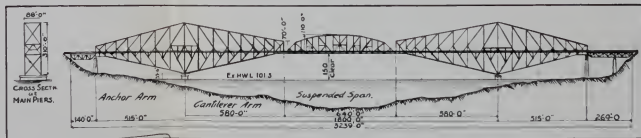
Welland Ship Canal. Heavy Rock Cutting on Site of Flight Locks, Section No. 3.



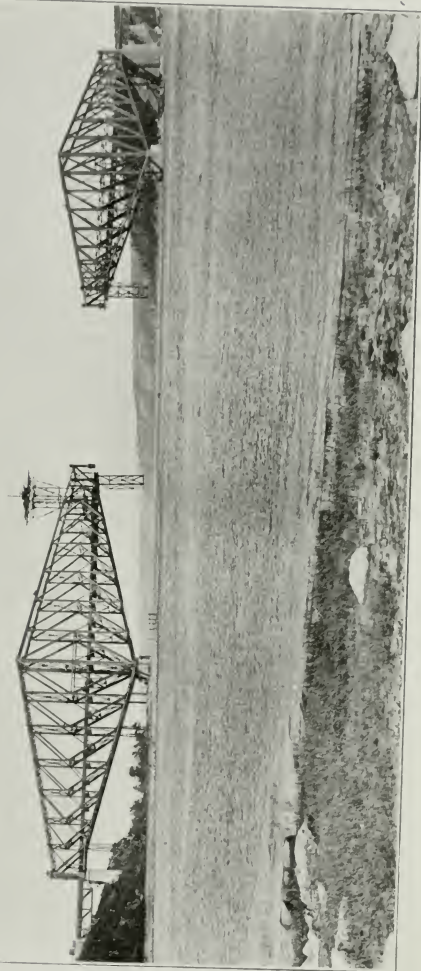
Welland Ship Canal. Lock No. 1



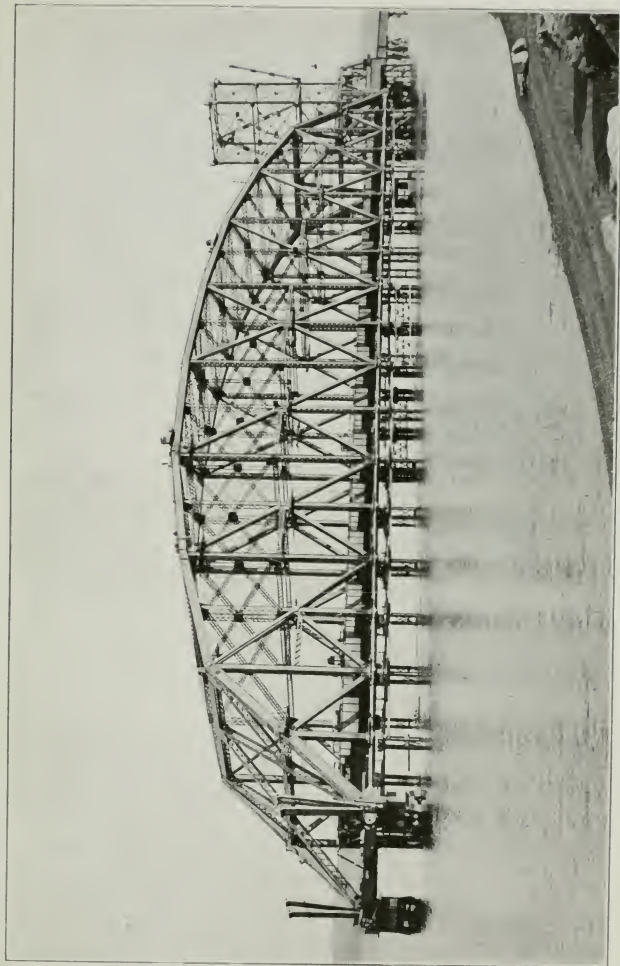
Quebec Bridge, across River St. Lawrence above Quebec, in course of construction.



Quebec Bridge.



Quebec Bridge: Ready to receive centre span. August 10, 1916.



Quebec Bridge: Centre span, 640 feet long, at Sillery Cove, $3\frac{1}{2}$ miles below Bridge, ready to be moved into position August 2, 1916.



I. C. R. New bridge over the Grand Narrows, C. B.



I. C. R. New bridge over the Grand Narrows, C. B.



I. C. R. Subway on Main Street, Moncton.



I. C. R. Coaling plant at Levis, Quebec.



Intercolonial Railway—Ocean Terminals, Halifax, N. S.



Car Ferry Terminal—Cape Tormentine, N.B. View of ferry-landing from a point near outer end of pier.



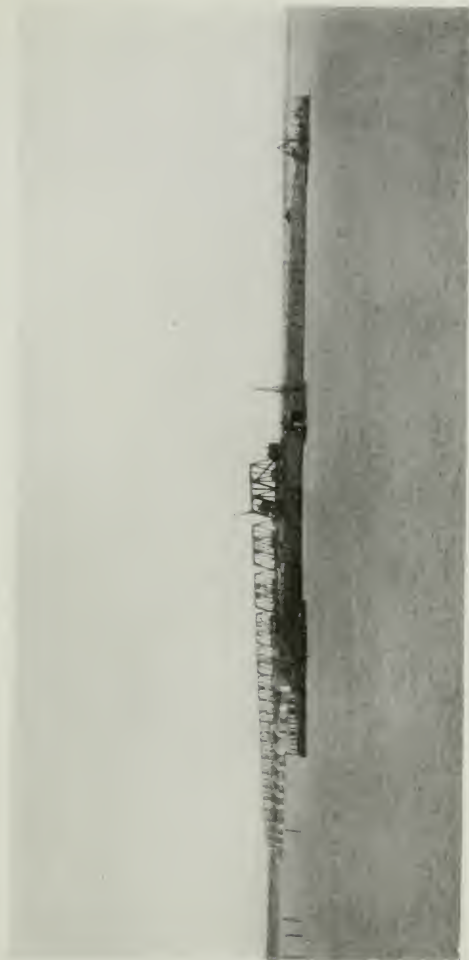
Car Ferry Terminal—Cape Tormentine. View of shore approach to ferry landing showing stone breakwater in distance.



Car Ferry Terminal—Carleton Point, P.E.I. View of turning basin, showing work in progress on concrete cribs of ferry landing, and stonework of breakwater.

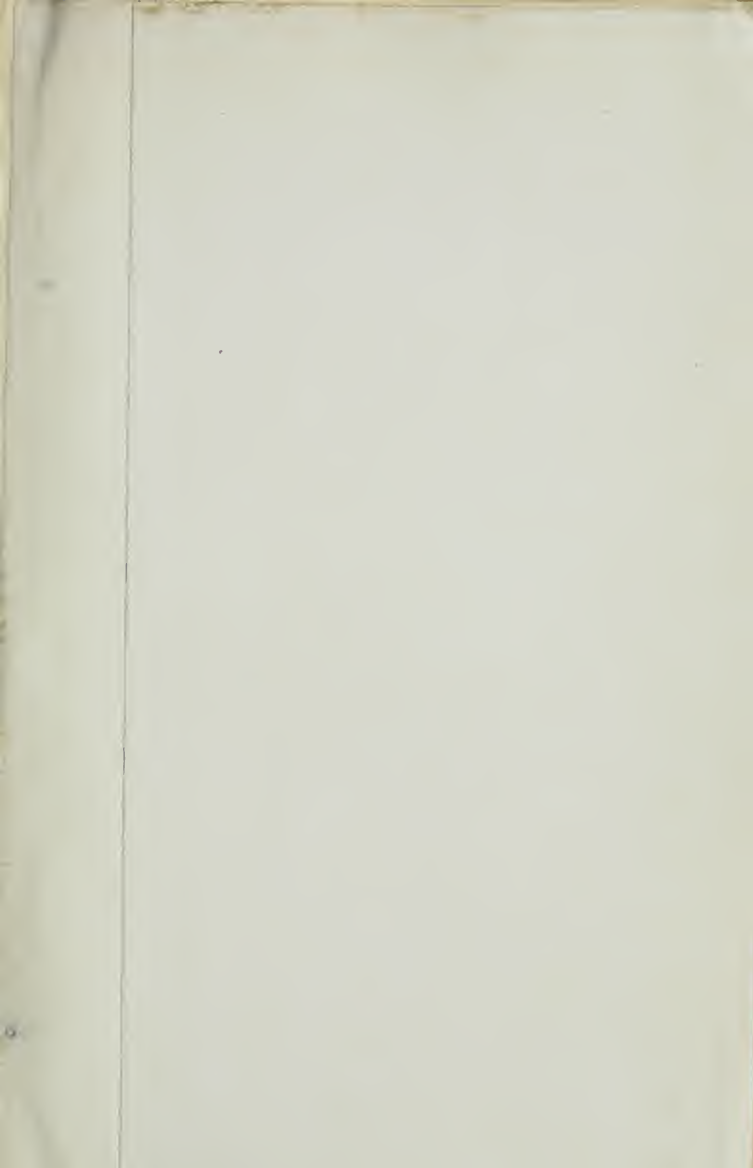


Hudson Bay Ry. - Bridge on Nelson River at Manitou Rapids. Main span, 395 ft.; side spans, 111 ft., with one 86 ft. girder approach span.



Hudson Bay Ry.—Port Nelson Terminus.

General view of permanent development, showing construction in progress upon cribwork of island pier, and completed bridge connecting pier with yards on shore.





HUDSON BAY RAILWAY FORT NELSON BRIMES

View of water front showing material yard with sheds and buildings. Fort Nelson (see caption at left)





General

GENERAL DIMENSIONS

Number of the sheet

1000

Width of the sheet

1000

Height of the sheet

1000

Length of the sheet

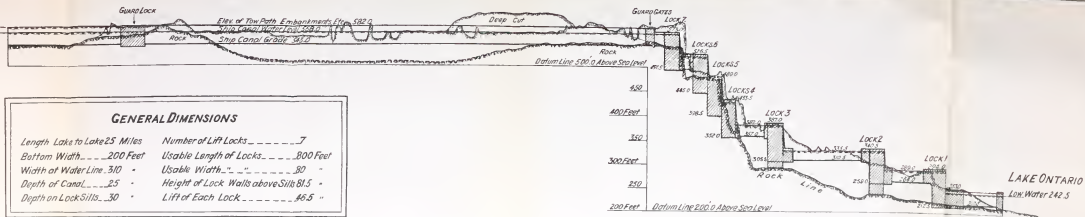
1000

Width of the sheet

1000

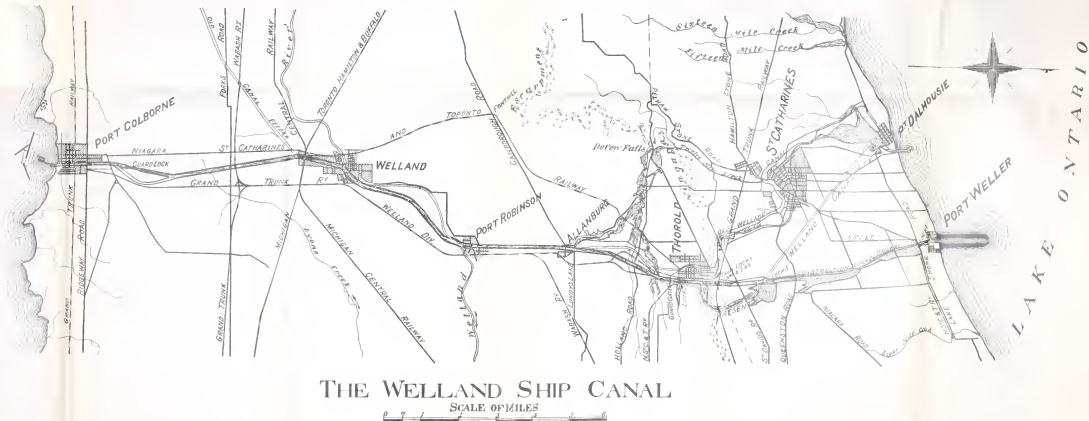
High Water 580.0
Low Water 568.0

High Water 580.0
Low Water 568.0



GENERAL DIMENSIONS

Length Lake to Lake 25 Miles Number of Lift Locks _____ 7
Bottom Width _____ 200 Feet Usable Length of Locks _____ 800 Feet
Width at Water Line 310 Usable Width _____ 80 "
Depth of Canal _____ 25 Height of Lock Walls above Sills 81 "
Depth on Lock Sills _____ 30 Lift of Each Lock _____ 46 "

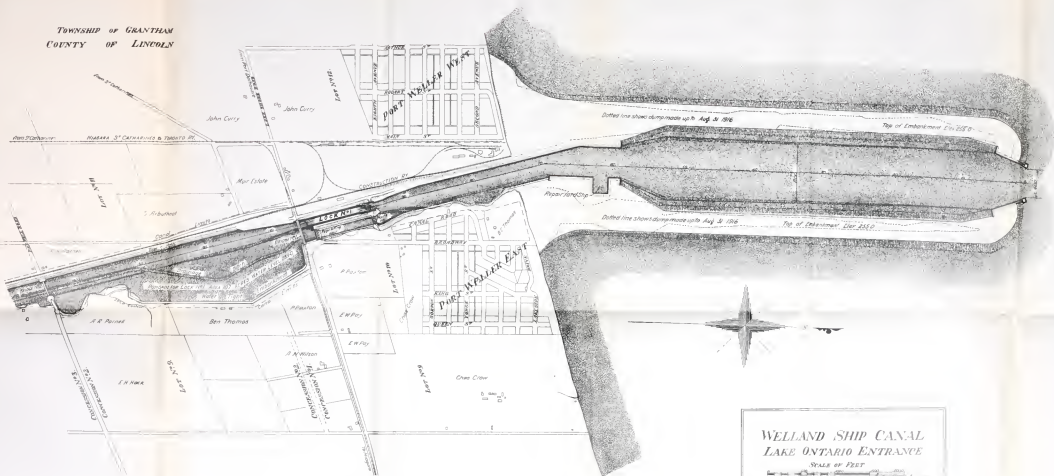








TOWNSHIP OF GRANTHAM
COUNTY OF LINCOLN

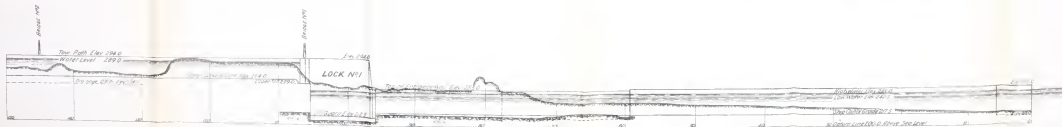


L A K E O N T A R I O

WELLAND SHIP CANAL
LAKE ONTARIO ENTRANCE

SCALE OF FEET

Altered Aug. 3, 1885



PROFILE

LAKES

St. Lawrence River

PORT
DALHOUSIE

ST. CATHARINES

HAMILTON

WATER



LAKE ONTARIO

HAMILTON

PORT WELLER
P'T DALHOUSIE
S'T CATHARINES

NIAGARA

LOCKPORT

NIAGARA FALLS

TONAWANDA

BUFFALO

WELLAND

P'T COLBORNE

DUNKIRK

LAKE ERIE

YORK

NEW

NIAGARA PENINSULA
PLAN SHOWING LOCATION OF
WELLAND SHIP CANAL

Scale of Miles

To Hamilton 34 Miles

To Toronto 50 Miles

To Toronto 46.5 Miles

To Kingston 128 Miles

To Ogdensburg 240 Miles

To Oswego 127 Miles

To Erie 82 Miles

To Buffalo 20 Miles

To Dunkirk 28 Miles